Public Utilities

Volume 67 No. 7 March 30, 1961

ELECTRIC UTILITY COSTING—A VALUABLE AID IN RATE MAKING
By Orrin S. Vogel

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Do Government Agencies Perform *Business* Functions When They Provide Electric Service?
By A. J. G. Priest

« »

Land Use Experience Near Atomic Power Plants
By Emery B. Dowell

« »

Investor-owned Nuclear Power Program

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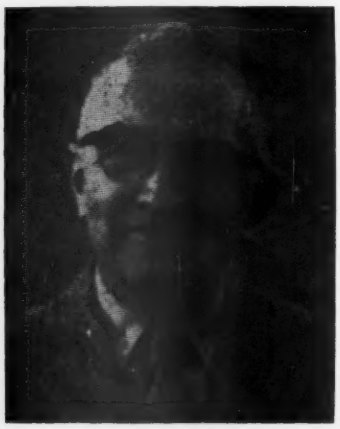
HEADQUARTER

Pages with the Editors

COST studies for purposes of establishing or testing public utility rate structures have had a rather mixed reception in the general field of company operation, as well as among the regulators, because the very term cost studies raises a question of degree of analysis. Presumably, every public utility rate established or proposed is based upon some sort of study or rationalization as to its contribution to the cost of providing service to the public. But the degree of analysis may range from pragmatic assumptions, based on strictly local experience, to attempts to include such detailed components of cost for the individual customer that it would take a corps of experts months to reach final conclusions in particular cases. And even after the cost studies have been made, the way in which they may be used raises further questions.

PUBLIC utility management tends to consider a cost study primarily as a basis for its own information in determining validity of present rate structures or the propriety of contemplated changes in the rate structure. Regulatory authorities, on the other hand, may consider the use of such studies as a test or check against the reasonableness of individual rate classifications. And in addition there may be customer classes or other parties, such as cities or large industrial customers, which have a special interest in determining whether certain rate tariffs might be discriminatory.



A. J. PRIEST

ORRIN S. VOGEL

IT has long been axiomatic in public utility regulation that not every rate discrimination is an unlawful discrimination, but that on the contrary some degree of rate discrimination is necessary to achieve overall reasonableness of a rate structure. To argue otherwise would be the same as trying to charge every passenger on a train or plane according to his weight on the scale, or classifying every electric utility customer strictly according to the number and relative use of outlets and the time and volume of such usage. The end of such foolhardy precision, however, would be a rate structure so incomprehensibly complex that it would defy public understanding, much less practical application.

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EMERY B. DOWELL

possible simplification for public utility rate structures. Somewhere between these two extremes have emerged the functional rate structures under which electric utility companies in the United States must operate. And behind these rate structures must be rational classifications based on justifiable costing practices.

THE opening article in this issue contains a valuable and, considering the subject, fairly simple explanation of electric utility costing as an aid in rate making. It comes to us from ORRIN S. VOGEL, a graduate of the Rensselaer Polytechnic Institute (EE), who also took postgraduate work at Georgia Tech in accounting, business administration, economics, and banking. His first professional employment was as a valuation engineer for the city of New York, after which he was employed as a consultant by the Georgia Power Company, and in 1937 by the Georgia Public Service Commission. Since 1947 MR. VOGEL has been with the Florida Power Corporation, of which he is now director of economic research. He has had broad experience both as former chief engineer of the Georgia commission and during his service with the Florida Power Corporation in the preparation and presentation of rate cases before state, federal, and local regulatory agencies.

* * * *

BEGINNING on page 448 is an article from A. J. G. PRIEST, professor of law at the University of Virginia and for many years a partner in the nationally known law firm of utility specialists, Reid & Priest of New York city. PROFESSOR PRIEST received his AB and LLB from the University of Idaho in 1918 and 1921, respectively. He has been chairman of the Section of Public Utility Law of the American Bar Association (1951-52) and is a fellow of the American Bar Foundation. He is a member of the bar of Idaho, New York, Virginia, and the District of Columbia, and has frequently appeared on behalf of public utility clients before the Federal Power Commission and the Securities and Exchange Commission.

* * * *

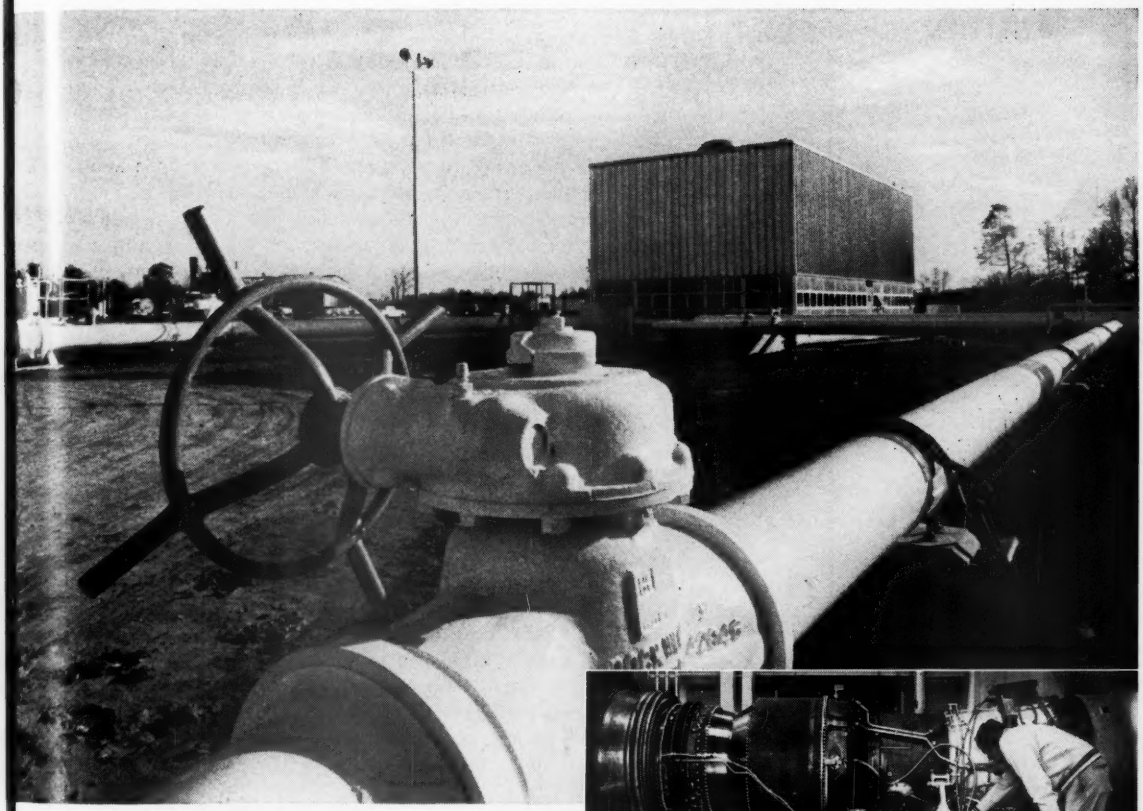
THE article beginning on page 453 by EMERY B. (SOAP) DOWELL of the Pacific Gas and Electric Company discusses some of the problems of land acquisitions for nuclear plants. MR. DOWELL is a member of the advertising and publicity department of PG&E, San Francisco. For the past five years he has been responsible for publicity and public relations activities pertaining to the company's program for the development of nuclear-fueled steam-electric generating stations.

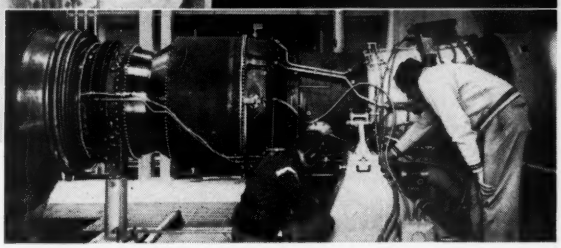
MR. DOWELL is a former newspaper publisher in his native Missouri and was editor of the *Wasco News* in Kern county, California, before joining PG&E in 1955. After service as a flying officer with the Navy during World War II, he graduated from Arizona State University in 1951 with a degree in political science. In preparing this presentation, MR. DOWELL was materially assisted by Willard H. Nutting, senior mechanical engineer of Pacific Gas and Electric, and by engineers of General Electric and Westinghouse atomic power departments.

THE next number of this magazine will be out April 13th.

The Editors

In this building... a new "first"





.in Columbia Gas System's onstant search for progress

umbe of "firsts" in the business of delivering natural gas ve been recorded by companies of the Columbia Gas System.

re is a nother—one of the highligh*s of 1960 operations.

November 15, 1960, the 10,500-horsepower thrust of an craft jet engine was harnessed to help pump 666 million ft. of natural gas a day to help serve 15 million people*.

is is t e first time an aircraft jet engine has been used a sou e of stationary power. In cooperation with Pratt Whitn y and Cooper–Bessemer, it was installed in this mpres r station near Clementsville, Ky., on the lines of lumbi Gulf Transmission Company, a System subsidiary. ith nin other Columbia Gulf compressor stations, it moves s from he Louisiana Gulf Coast to other Columbia System mpanie s which, in 1960 delivered a total of 792 *billion* bic fee of gas to homes, industry and other public utilities.

1960, THE SYSTEM ALSO . . . equipped more compres- and field pumping stations with automatic controls . . . ilt an ntire distribution system for an Ohio village with stic pipe . . . began operation of the first leg of a micro- ve com munications system . . . instituted new refinements in machine accounting and centralized billing procedures.

These and many more innovations were completed or initiated in 1960 in Columbia Gas System's constant search for new, better and more economical ways to serve customers. For the full story of the System's progress, write for the Annual Report for 1960.

**The estimated 1960 population of the area served by Columbia System companies in Ohio, Pennsylvania, New York, Virginia, West Virginia, Maryland, Kentucky and the District of Columbia.*

THE COLUMBIA *Gas* SYSTEM, INC.

Columbia Gas System Service Corporation, Columbia Hydrocarbon Corporation, 120 East 41st Street, New York 17, N. Y. **CHARLESTON GROUP:** United Fuel Gas Company, Amere Gas Utilities Company, Atlantic Seaboard Corporation, Columbia Gas of Kentucky, Inc., Virginia Gas Distribution Corporation, Kentucky Gas Transmission Corporation. **COLUMBUS GROUP:** The Ohio Fuel Gas Company, The Ohio Valley Gas Company. **PITTSBURGH GROUP:** The Manufacturers Light and Heat Company, Columbia Gas of New York, Inc., Columbia Gas of Maryland, Inc., Cumberland and Allegheny Gas Company, Home Gas Company / Columbia Gulf Transmission Company / The Preston Oil Company.

Coming in the Next Issue...

(APRIL 13, 1961, ISSUE)

THE RISING COST OF UTILITY DEBT—WHAT CAN UTILITIES DO ABOUT IT?

Is the yield on utility bonds influenced by ratings, and do items other than earnings coverage and capitalization ratio enter into the ratings of bonds? The author of this article, Eugene S. Merrill, vice president of Stone & Webster Service Corporation, shows that the answer is yes to both of these questions and illustrates the importance of utilities with a fixed charge coverage, higher than their rating group, finding out the factors (other than earnings protection) that contribute to the assignment of a lower rating. Following the steps outlined in this article, it may be possible for such a company to remedy its situation or present an explanation that will convince responsible agencies that a higher rating is in order.

IMPACT OF FEDERAL REGULATION ON NATURAL GAS COMPANY MANAGEMENT

We usually think of commission regulation in the public utility field as something that is simply imposed by law and must be taken for granted. But in the case of industries which only in recent years have been brought under regulation, the implications of regulation take some time to emerge clearly. This is particularly true in the case of natural gas producers who, until 1954, considered themselves exempt from regulation under the Natural Gas Act. Edward Falk, consulting engineer of Washington, D. C., has addressed himself in this article specifically to the problem of the impact of federal regulation on natural gas company management. Regulation is more than lawyer business. It is a matter which can have a most persuasive effect on decisions of management, even in the area of day-to-day operations. A true understanding of what regulation means will tend to minimize wasteful if not painful dislocations which management might experience if it were to pursue its course.

LET TOWNSFOLK LOOK OVER THE FORECASTER'S SHOULDER

This is an age of long-range forecasting. We have it for the weather, for business, for finance, for education, and, of course, the exploration of space. But long-range forecasting is an old story to public utility companies that must not only do today's work while planning tomorrow's, but project their probable situation far into the future, when entire cities will be sprawling over state lines or merging with each other into the giant megalopolises of the future. James H. Collins, our roving writer of business articles, feels that public utilities might profitably let the public into some of their forecasting programs and see for themselves where the town is going and what the picture is expected to be like by five, ten, or more years from now.

AND IN ADDITION . . . *Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.*

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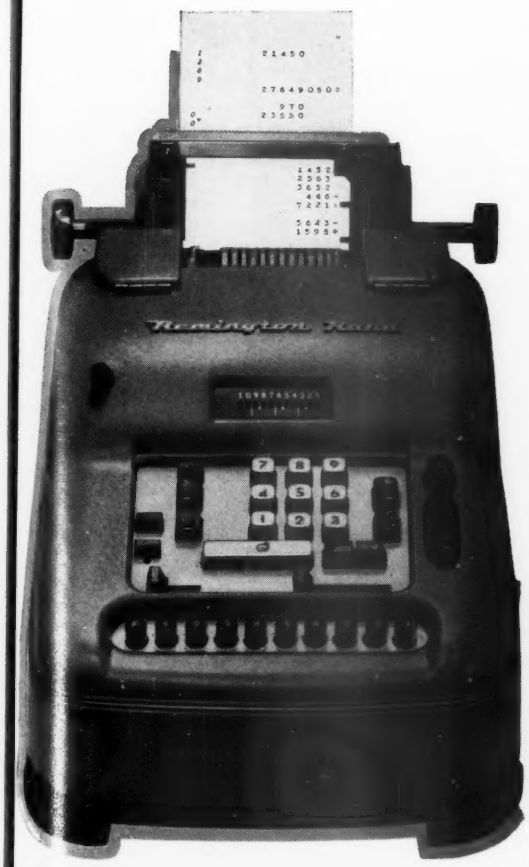

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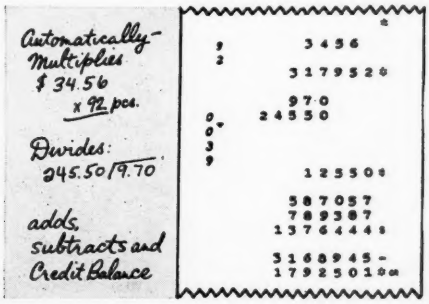

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President, National Association of Broadcasters.

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EDITORIAL STATEMENT
The Wall Street Journal.

"If Congress were simply to ignore the farm bloc and stop supporting farm products at unrealistic levels, the free market place would not only set the prices of products but also of the land. Then the taxpayers wouldn't have to pay people for growing nothing on submarginal land. And the surest thing of all is that the real farmers, in the end, would benefit if Uncle Sam were to get off the farm and take all the people who don't farm with him."

DAVID LAWRENCE
Editor, U. S. News & World Report.

"Partisan differences among us must be put aside as we approach now the real crisis in American history—the struggle for survival against those in our midst who would lead us down the road to bankruptcy, even as they broadcast their illusory platitudes about the need for 'moving ahead' by artificial 'growth' to achieve 'national purpose.' . . . The only hope now is that the conservatives of both parties in Congress, supported by the conservative majority in the nation, will work together to save America from financial chaos and defeat in the 'cold war.' "

DWIGHT D. EISENHOWER
Former President of the United States.

"In our free economy, economic growth and the improvement of living standards depend not primarily on what government does, but mainly on what is done by individuals and groups acting in their private capacities. Government makes its basic economic contribution not through the volume of its own expenditures, but by promoting conditions favorable to the exercise of individual initiative and private effort. Accordingly, a dominant purpose of government at every level must be the preservation and invigoration of institutions that favor and support enterprise."

ELMER L. LINDSETH
President, The Cleveland Electric Illuminating Company.

"Competent economists say a free society is in trouble when 20 or 25 per cent of its wealth goes to government in taxes. Today, our various levels of government —local, state, and federal—take more than 30 per cent of the wealth we create. What does this mean in plain language? It means that we—you and I and our fellow Americans—have abdicated to government the responsibility for controlling almost one-third of this country's total income. If we think we can throw away that much responsibility without losing some of our freedom, we are sadly deluding ourselves."

Utilities Events Calendar

CHECK THESE DATES:

Apr. 2-4—The Women's Housing Congress will hold conference, Washington, D. C.

Apr. 4—Atomic Energy Commission will hold symposium on uranium as reactor fuel material, Germantown, Md.

Apr. 4-5—Gas Compressor Institute will be held, Liberal, Kan.

Apr. 4-6—American Gas Association will hold research and utilization conference, Cleveland, Ohio.

Apr. 4-6—International Polytechnic Symposia will be held, New York, N. Y.

Apr. 4-6—National Association of Railroad and Utilities Commissioners, Committee on Accounts and Statistics, will hold meeting, Tampa, Fla.

Apr. 4-7—Audio Engineering Society will hold west coast spring convention, Los Angeles, Cal.

Apr. 5-6—American Water Works Association, West Virginia Section, will hold annual meeting, Bluefield, W. Va.

Apr. 5-6—Nebraska Telephone Association will hold annual convention, Lincoln, Neb.

Apr. 5-6—The South Atlantic Wood Utility Pole Conference, sponsored by the North Carolina State College, will be held, Raleigh, N. C.

Apr. 5-7—American Institute of Electrical Engineers, South East District, will hold meeting, New Orleans, La.

Apr. 5-7—Northwest Public Power Association will hold annual membership meeting, Wenatchee, Wash.

Apr. 6—Pennsylvania Gas Association will hold distribution conference, Valley Forge, Pa.

Apr. 6-7—American Society of Mechanical Engineers will hold management engineering conference, New York, N. Y.

Apr. 6-7—Edison Electric Institute, Electric Power Survey Committee, will hold meeting, New York, N. Y.

Apr. 6-7—Michigan Municipal Utilities Association will hold spring conference, Bay City, Mich.

Apr. 6-7—Pacific Coast Electrical Association will hold engineering and operating conference, Los Angeles, Cal.

Apr. 6-8—American Water Works Association, Montana Section, will hold annual meeting, Helena, Mont.

Apr. 7—Maryland-District of Columbia Utilities Association will hold annual spring conference, Baltimore, Md.

Apr. 7-8—Southwest Association of Advertising Agencies will hold annual convention, Dallas, Tex.

Apr. 9-13—American Society of Mechanical Engineers will hold oil and gas power conference and exhibit, New Orleans, La.

Apr. 10-11—Illuminating Engineering Society, East Central Region, will hold meeting, Philadelphia, Pa.

Apr. 10-12—Edison Electric Institute Insurance Committee, will hold meeting, Virginia Beach, Va.

Apr. 10-21—American Welding Society, International Institute of Welding, will hold annual convention and welding exposition, New York, N. Y.

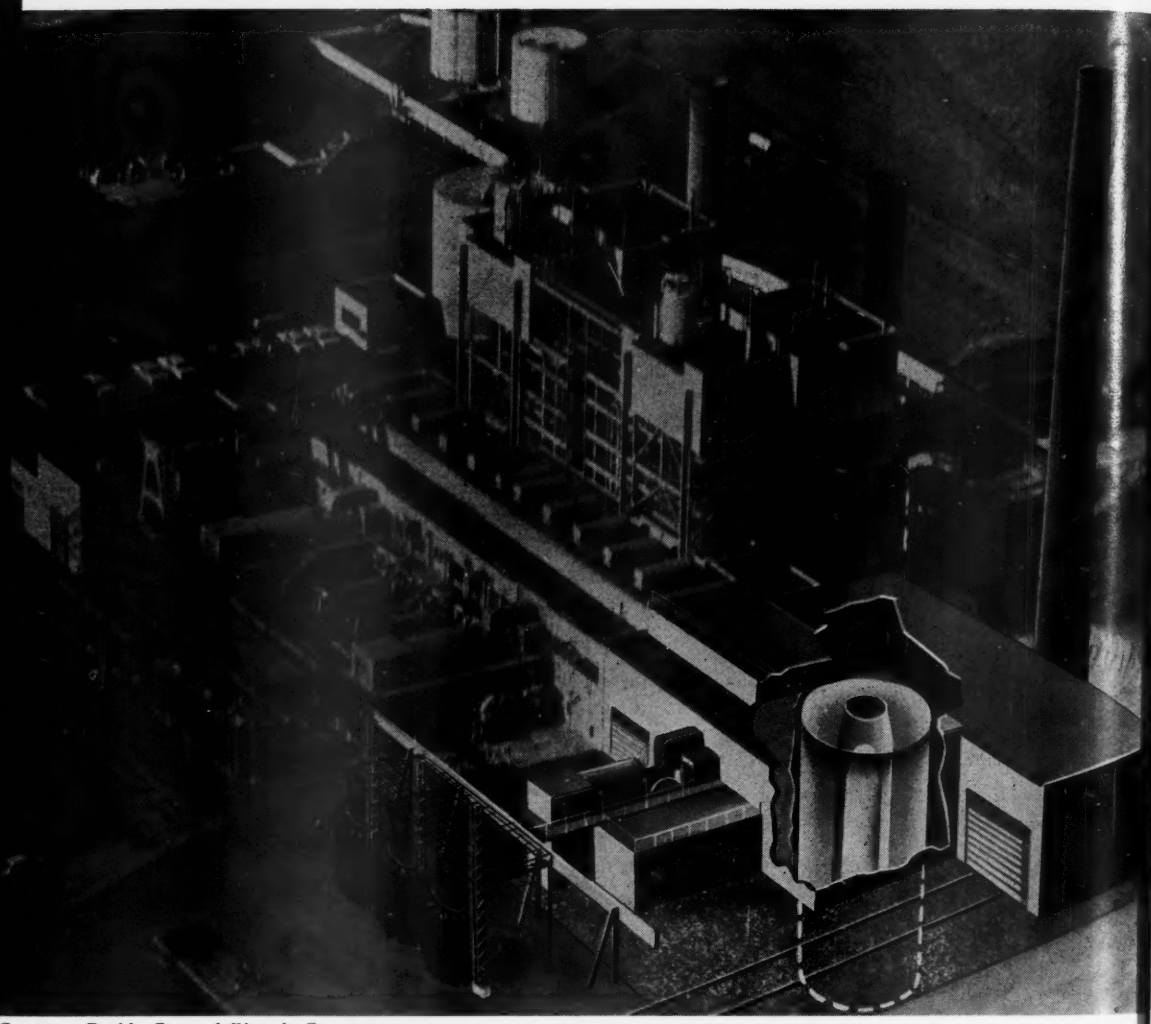
Apr. 11-13—American Gas Association will hold sales conference on industrial and commercial gas, Windsor, Ontario, Canada.

Apr. 11-13—American Institute of Electrical Engineers will hold extra high-voltage cable conference, Elmira, N. Y.

Apr. 11-13—American Water Works Association, New York Section, will hold annual meeting, Buffalo, N. Y.

Apr. 12-14—American Water Works Association, Kansas Section, will hold annual meeting, Hutchinson, Kan.

Apr. 12-14—Missouri Valley Electric Association will hold engineering conference, Kansas City, Mo.



Courtesy, Pacific Gas and Electric Company

A Caisson to Contain a Nuclear Reactor

The Humboldt Bay reactor is being enclosed in a huge concrete caisson sunk deep in the ground. The caisson, which includes major components of the pressure suppression containment system, can be visualized as a giant wheel, laid on its side and sunk into the ground. *(See page 453).*

Public Utilities
FORTNIGHTLY

VOLUME 67 MARCH 30, 1961 NUMBER 7

Electric Utility Costing—A Valuable Aid in Rate Making

"Electric utility costing studies" determine the unit investment and expense cost of supplying service in varying quantities at different voltage levels with changes in rates of delivery and time periods and to different rate classes—consisting of many customers with widely varying use habits. By use of graphic charts and tables, this article demonstrates relatively simple methods for testing "high level costing"—meaning the cost of providing service from the transmission or high-voltage systems—and "low level costing," which takes into account the additional distribution investment cost and low level expenses beyond the point of transmission.

By ORRIN S. VOGEL*

"COSTING" is a title given to procedures and methods used to determine the underlying costs of providing electric service. Its main purpose is to obtain factual information regarding the actual component cost of utility operations. The application of methods used in such studies may be uniform, but the results will vary with operating conditions in each case.

It is difficult to explain why different classes of service have varying rate charges; but when basic costing information is available with which to make such proofs, the problem becomes less formidable.

*Director of economic research, Florida Power Corporation, St. Petersburg, Florida. For additional personal note, see "Pages with the Editors."

Although costing is, primarily, a utility company operating function, it can be of practical value to the regulatory authorities. It is a source of dependable and useful information with which to test the propriety of present or proposed rate schedules. These studies provide demonstrable proof of the costs involved in delivering electric service to various classes of customers.

ELECTRIC utility costing studies determine the unit investment and expense costs of supplying service in varying quantities; at different voltage levels, with changes in rates of delivery and time periods; and to different rate classes, consisting of many customers with widely varying use habits.

Costing studies can also be a source of information of interest and value to the customer's monthly bill for electric servfactual information with which to judge and provide proof of the propriety of any proposed rate or change affecting the customer's monthly bill for electric service.

These studies make available basic information with which to demonstrate that the company has made every effort to supply adequate, dependable, and efficient electric service, at the lowest practical cost to the consumer.

Costing can also be used to show that government power operations, which receive so much favorable publicity regarding low-priced electric service, do not actually compete with investor-owned operations; but instead government utility operations, through discriminatory preference subsidies, undersell free enterprise utilities. Government subsidy costs, caused by inequitable tax exemptions and preference money costs which favor selected local areas, are passed on to everyone, nation wide, through increased federal taxes.[1]

BEFORE going into the discussion of costing procedures, it might be well to examine the principal factors of electric utility operating costs.

The first and largest part of the cost in a utility company's operation is occasioned by the annual cost of all dollars invested in generating plants and facilities; that is the load component cost. It is the annual dollar cost of the capital invested to reserve sufficient system plant capacity for the customer's use, and is also called the "availability" or, more generally, the "demand" cost (per kilowatt).

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[1]The language barrier is a source of difficulty in preparing and providing understandable information regarding utility operating costs and pricing schedules. Possibly some of the terms already used have more than one interpretation. For example:

Class of Service or Rate Class, in this article, means an electric utility rate classification: residential, commercial, or industrial. A rate classification in the electric utility represents a group of customers with similar load requirement and use of service habits. The similarities of load size in kilowatts, utilization in kilowatt-hours, and customer electric service habits determine the characteristics of a rate class.

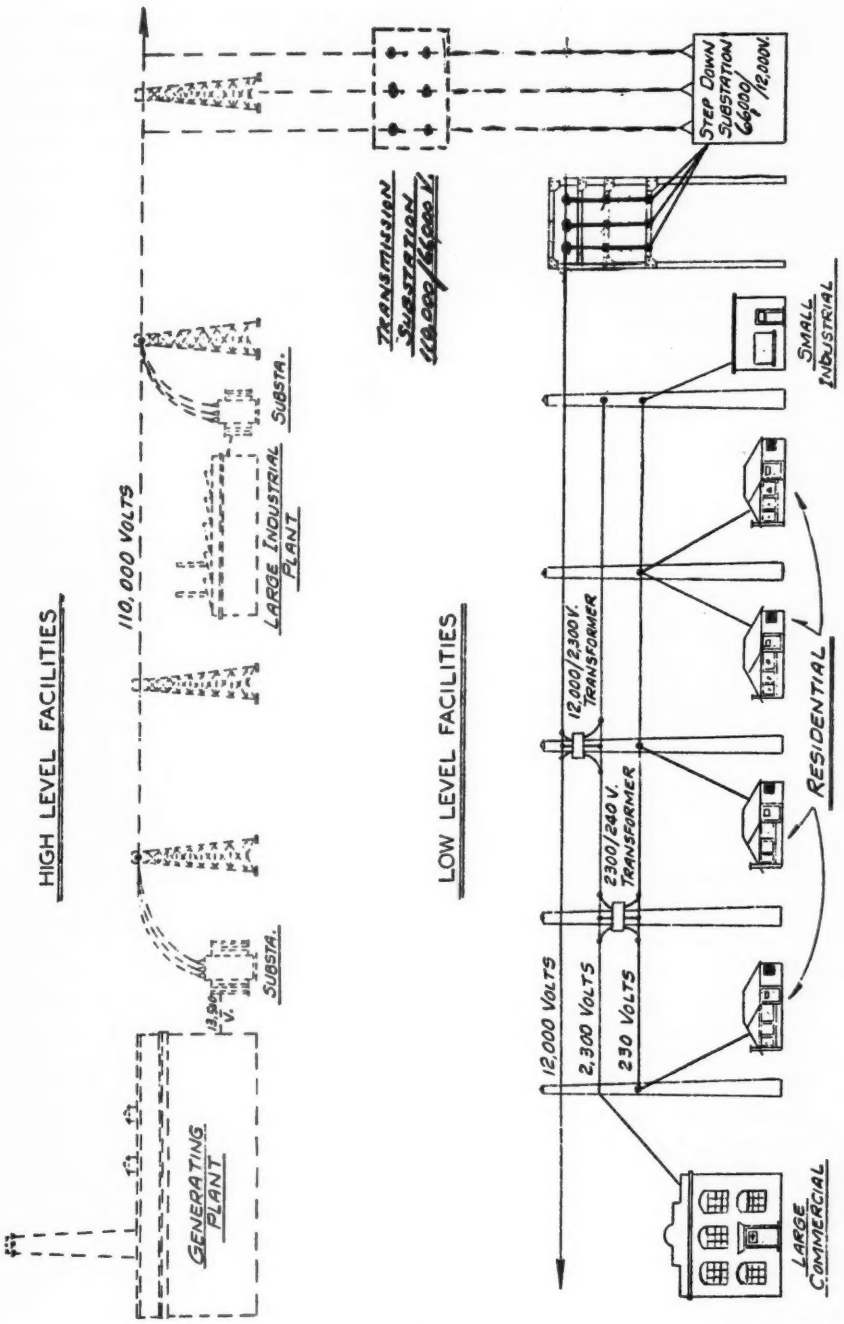
Class Characteristics is the title given to measuring devices used to determine unit service costs. The principal class characteristics of each group are: number of customers, kilowatt-hours consumed, and kilowatts of load.

Investment means total dollars invested in used and useful property in the company's electric system, including cash working capital.

Investment Costs mean the total annual cost of the dollars invested in the system.

Expense Costs mean all actual operating expenses incurred in providing service, including depreciation and taxes.

Cost Component is a term used to indicate the actual cost of service, as derived by costing studies, expressed as so much per kilowatt of system load, per kilowatt-hour of energy consumed, and per customer in the class. Those three "components" are the fundamental class costs determined by a costing study.


HIGH LEVEL FACILITIES
LOW LEVEL FACILITIES
GENERATING PLANT
13,800 V.
SUBSTA.
110,000 VOLTS
SUBSTA.
LARGE INDUSTRIAL PLANT
TRANSMISSION SUBSTATION 110,000/66,000 V.
STEP DOWN SUBSTATION 66,000/12,000V.
SMALL INDUSTRIAL
12,000/2,300V. TRANSFORMER
2300/240 V. TRANSFORMER
RESIDENTIAL
12,000 VOLTS
2,300 VOLTS
230 VOLTS
LARGE COMMERCIAL

The second major class of the electric utility costs is that occasioned largely by the consumption of fuel in the production of power by the operation of generating plants and the delivery of the electric energy to customers throughout the utility system. This is the use of service or energy cost factor (per kilowatt-hour).

The third part is the customer cost, which is mainly the expenses of meter reading, billing accounting, collecting, etc. (per customer).

When a large industrial customer contracts with the company for service, he usually submits an estimate of the size of his electric load requirement, so that adequate plant capacity will be made available for his use. This is called the "customer electrical load" or "demand," measured in kilowatts. The customer's load estimate, as submitted, provides a measure of the annual investment cost imposed, and that is generally all the utility requires to be certain that it can provide the plant capacity for the desired service.

A good question at this point is, "Why doesn't the company require an estimate of the customer's kilowatt-hour or energy needs?" The answer is: The kilowatt-hour requirement depends on the customer's actual hours' use of the service. Energy requirements measured in kilowatt-hours do not tie up a large sum of money in advance, or incur continuing costs, like those imposed by the investments with their fixed annual costs that must be incurred prior to the supply of power.

A new customer's demand or potential load requirement may be any amount—1, 100, or 1,000 kilowatts. The money the company must invest to make 1 kilowatt of plant capacity available at distribution level is in the range of $500. The amount required for a 1,000-kilowatt load would be about $500,000. This tremendous difference in the investment requirement and the associated annual fixed cost requirement indicates how important it is to know the size of a customer's load in kilowatts in advance of service.

Since the demand cost component is related to the overall system investment, its application is difficult to explain and identify. One approach that may be helpful is to consider the operation of a car rental business, a business that has operating costs similar to those of an electric utility. In the car rental service there are two principal operating costs, the demand and use of service cost. The demand, or annual capital cost, per rented car, is generally between $7 to $10 per day and the use charge about 7 cents per mile. In the outset, the demand cost per car is about 100 times as important to operations as the use charge.

The above comparison of costs indicates why a car rental service owner would be primarily concerned with demand costs. His major problem is to be sure that he can pay the annual capital costs on the cars purchased; for that is his fixed obligation and the one which determines the life or death of his business.

If the car is rented by a customer and used extensively, the owner's profit will be increased considerably because, in the use or mileage charge, there is something more than just fuel and maintenance cost. It is this additional amount in the use charge that provides a portion of the re-

TABLE I
INVESTMENT APPORTIONMENT
TRANSMISSION LEVEL

INVESTMENTS
TRANSMISSION PLANT

Level—Transmission

Components—Demand—Energy—Direct

			Demand Kw.	*Energy Kwh.*	*Direct Dist. L.L.*
A—	PRODUCTION				
	1.	Steam	$290,000	$9,000	0
	2.	Hydro	—	—	0
	3.	Diesel	—	0	0
	4.	Marine	—	—	0
B—	TRANSMISSION				
	5.	Lines	—	0	—
	6.	Substa.	—	0	—
C—	GENERAL				
	7.	Land	—	—	0
	8.	Structure	—	—	—
	9.	Furn. & Fixtures	—	—	—
	10.	Transport	$10,000	$1,000	$50,000
	11.	Stores	0	0	—
	12.	Shop	—	0	—
	13.	Laboratory	—	0	—
	14.	Work	—	0	—
	15.	Communication	—	—	—
	16.	Miscellaneous	0	0	—
D—17	CONSTRUCTION WORK IN PROGRESS—IN SERVICE		—	—	—
E—18	CONSTRUCTION WORK IN PROGRESS—NO INTEREST CAPITALIZED		—	—	—
F—19	PLANT ACQUISITION COST		—	—	—
G—	MATERIALS AND SUPPLIES				
	20	GENERAL	0	—	—
	21	FUEL	—	—	0
H—22	PREPAYMENTS		—	—	—
I—23	CASH WORKING CAPITAL		—	—	—
	Total Investment		$300,000	$10,000	$50,000

turn of capital and profit on the car owner's investment.

IT is obvious that the person who rents a car for a week and drives it 100 miles or less should, on a unit cost basis, pay a higher use or mileage charge than a customer who drives a rented car 1,000 miles or more per week. However, the car rental mileage charge is generally predicated on the average annual use of all cars.

If the same people rented the cars every day, in all probability a car rental service would have variations in the mileage charge, to award those who normally use the service more extensively with a lower charge per mile.

If kilowatts are substituted for cars and kilowatt-hours for miles in this discussion, the propriety of electric utility rate forms will be more readily understood.

In the electric business the number of customers, or users of plant capacity, are very much the same each day; therefore, it is possible to design electric rates that award lower charges to customers who make the greater number of hours' use of the service. Because of this consistency, two additional service characteristics of value in the development of class costs can be determined and used in costing studies. Those characteristics are the number of customers per class and the effect of their varying use of service habits on class demands, which, taken together, develop the very important cost factor, called "diversity."

DIVERSITY is simply determination of the relationship between the total number of units required for the service and the total number of users, or total maximum load requirement, of the rate class.[2]

Going back again to the auto service plan, let us assume that each automobile costs $3,000 and that the annual capital costs are $1,500 per year. If there is only one user of the car, the total demand cost to the user is $1,500 per year; but if the car can satisfy the needs of three people, the annual investment cost per user can be cut to $500. It is the diversity factor of three (users per unit) that reduced the annual investment or fixed cost from $1,500 to $500 per year per user.

If an electric rate class with a total combined individual load requirement of 500,000 kilowatts, because of variations in class use habits, can be adequately served by a 200,000-kilowatt generating plant, the annual investment cost can be cut 60 per cent. Actual experience and test disclose that electric rate classifications have widely different diversities. This is, as stated above, a very important factor in the determination of the cost of providing service and the formulation of class rates.

ANOTHER important costing problem relates to the voltage level at which service can be utilized by the customer. In an actual operation, there are mainly two service voltage classifications—high and low level. In this article, high level means

[2]For example, in the car rental business, 100 cars may adequately serve the needs of 100,000 potential customers. The diversity in that case is very large: $\frac{100,000}{100} = 1,000$.

In the electric business, 100,000 residential customers with an average demand or load of 5 kilowatts each may be adequately served by a plant of 200,000-kilowatt capacity. The diversity in this selected case would be $\frac{500,000}{200,000} = 2.5$. Diversity is a very important factor in the determination of the annual investment or demand cost.

TABLE II
EXPENSE APPORTIONMENTS
TRANSMISSION LEVEL

EXPENSE
TRANSMISSION PLANT

Level—Transmission
Components—Demand—Energy—Direct

		Demand Kw.	*Energy Kwh.*	*Direct Dist. L.L.*
A—	PRODUCTION EXPENSE			
1.	Steam	$20,000	$17,000	0
2.	Hydro	—	—	0
3.	Diesel	—	—	0
4.	Purch. Power	—	—	0
5.	Other	0	—	0
B—	TRANSMISSION EXPENSE			
6.	All	—	0	—
C—	DISTRIBUTION EXPENSE			
7.	All	0	0	—
D—	CUSTOMERS A/C EXPENSE			
8.	All	0	0	—
E—	SALES PROMOTION EXPENSE			
9.	All	0	0	—
F—	ADM. & GENERAL EXPENSE			
1.	General Office Salaries and Expenses			
	a. Salaries	$10,000	$2,000	$20,000
	b. Expenses	—	—	—
	c. Supplies	—	—	—
	d. Rents	—	—	—
	e. Maint.	—	—	—
2.	Insurance and Injuries and Damages	—	—	—
3.	Employee Welfare—Per Payroll	—	—	—
4.	Adm. Salaries and Expenses			
	a. Production	—	—	0
	b. Transmission	—	0	0
	c. Distribution	0	0	—
5.	Depreciation	—	—	—
6.	Taxes Other			
	a. Unemployment & O.A.B.	—	—	—
	b. Production and Transmission	—	—	0
	c. Other	0	0	—
	Total Expense	$30,000	$19,000	$20,000

all annual investment and expense costs incurred in operating the company's production and transmission system. (See illustration, page 435, dotted section.) Low level means the annual investment and expense costs incurred in operating the company's low-voltage distribution systems. (Page 435, solid line section.)

There is an important need in a costing study for the above investment and expense cost separation. If, for example, all customers on the electric system could take service direct from the utility's high-voltage transmission lines, no distribution investments would be required. Under those conditions, the cost of providing service would be very much less than the cost at low or distribution voltage level. This is true because low level service requires the expenditure and use of both transmission and distribution investments, and it incurs both high level and low level operating expenses.

High Level Costing

THE first part of a high level study is to determine the cost of providing service from the transmission or high-voltage system. That type of study separates all distribution or low level investments and expenses, as shown on the books of the utility, from those involved at transmission or high level. The recorded high level investments and expenses are then apportioned, not to rate classifications but to the cost components, per kilowatt and per kilowatt-hour. In the outset, high level studies are not concerned with rate classifications. This simplifies this part of the costing problem but still leaves quite a task for the costing specialists.

It may be well to point out here that costing studies are based entirely upon actual investments and operating expenses, as reflected on the books of the company.

The accompanying Table I (page 437), titled "Investment Apportionment Transmission Level," is a listing showing the main classes of high level investments. It also indicates, with dash lines, where the investments in each classification would normally end after being apportioned to the cost components. Zero positions on the outline indicate that no part of the investment classification would be apportioned to that particular component.

TABLE II, titled "Expense Apportionments Transmission Level," is an outline of the main expense classifications. This illustration also indicates where the expense apportionments in each account, not assigned to low level, would end as a cost component. (See page 439.)

The basis upon which an investment apportionment is made is the cause of the investment requirement or responsibility. The basis for each expense apportionment is the function of or responsibility for the expense.

Even though procedures used by different engineers or costing specialists do vary, the end result regardless of the procedures and refinements used, if carefully applied, using realistic class demands and functions, should produce comparable figures that are satisfactory, realistic, and sufficiently accurate for all practical purposes.

IF figures are used on the diagrams, Tables I and II, and the total dollars at the bottom, as shown on Tables I and II, are assumed to represent final figures

that would have been obtained by the apportionment of all company transmission investment and expense, we can illustrate development of the unit costs of providing service.

Table III this page is a unit cost study applying the above figures.

Line 1 is the investment responsibility from Table I.

Line 2 is the expense responsibility from Table II.

Line 3 is the assumed 10 per cent of line 1 and is the gross return on the investment, including the associated income tax liability, called "Gross Return Prior Taxes on Income."

Line 4 is the total of Lines 2 and 3.

Line 5 is the assumed load on the transmission system in kilowatts and the annual consumption in kilowatt-hours.

Line 6, Line 4 divided by Line 5 is the calculated unit cost of providing high level service.

THE high level unit costs developed in Line 6 are the annual demand cost, per kilowatt per year at $60; the energy cost, per kilowatt-hour at 5 mills; and the overall average cost per kilowatt-hour at 20 mills.

EVEN though the above figures are hypothetical, the data derived indicate certain practical aspects of this type of information and the results that would be obtained by a full costing study. The unit costs in Table III are based on a 10 per cent gross, to cover return and income taxes. In an actual study, the percentage used would usually be that required to earn a fair return on the investment made to provide the service.

So much for our brief overall review of high level costing procedures. It should provide the reader with some understanding of costing methods and furnish a background for study of the more complex part of the costing job; that is, the low level studies to which we now progress.

Electric Utility Low Level Costing

ALL classes of service in the electric business require and incur high level investment cost and expenses. Low level customer loads, in addition to the above, require and incur distribution investment costs and low level expenses.

The accompanying illustration on page 435 indicates the equipment used in the high and low level electric utility system. The dotted lines show high level facilities, the generating plant, transmission lines,

TABLE III
UNIT COST DETERMINATION
HIGH LEVEL SERVICE

	Demand	*Energy*	*Total*
1. Investment Responsibility	$300,000	$10,000	$310,000
2. Expense Responsibility—Prior Return	$30,000	$19,000	$ 49,000
3. Return & F.I.T. @ 10%	30,000	1,000	31,000
4. Total Cost	$60,000	$20,000	$ 80,000
5. Units—Customer Requirement	1,000 Kw.	4,000,000 Kwh.	4,000,000 Kwh.
6. Unit Cost—of Service	$60 Per Kw.	5.00 Mills Per Kwh.	20.00 Mills Per Kwh.

and substations. Those facilities are used by all customers. The solid lines in the drawing on page 435 represent the distribution plant required to deliver power from the transmission system through the substations, primary lines, and distribution line transformers to low level customers.

The high level type customer is identified on the drawing as a large industrial customer and that is the usual type of load supplied by that class of service. The industrial customer's load, as shown, is served direct from the transmission system and has no reason to need or use any part of the distribution level facilities. The low level type customers must use both high and low level investments. Those classes are identified on page 435 as small industrial, commercial, and residential customers.

IN general, the function of the high level system is to make all of the power generated and received by the transmission system available to every customer in the company's service area. The broad purpose of the low level distribution system is to deliver energy received from the transmission or high level system to the distribution customers at low level, in the kilowatt and kilowatt-hour amounts needed, at the desired voltage and to the customer's premises.

It is the many varying load requirements and use habits of low level rate classes which make this part of a costing study more complex than that required to determine high level cost components.

The load requirements and use habits of each class, residential, commercial, industrial, etc., must be analyzed before a low level costing study can be undertaken. It is necessary to determine the "class characteristics" of each rate group. The term, "class characteristics," as previously noted, means the number of customers, meters, kilowatts, kilowatt-hours, and dollars of revenue relating to each rate classification. This preliminary work also includes determination of the noncoincident class load requirements and the progressive effect of losses, associated with those demands, on system loads at the generating stations.

CLASS characteristics are used in costing studies to apportion actual system investments in plant and facilities and the expenses to various cost components and rate classes. When class characteristics required for a costing study have been compiled from the book records and load studies, the following information will be available:

Revenues per class of service or rate classification.

Customers and meters per rate class at the end of the test period and average for the test period.

Kilowatt-hour sales per class, plus losses between the meter and various points of voltage transformation and service.

Kilowatt requirement per class at the meter input and at various points of voltage transformation and service.

Other class characterstics, such as: power factor, load factor, RKVA, and the diversity factor.

THE reason kilowatt-hour and kilowatt data are determined at different points of delivery and at different voltage levels is that some low level investments and expenses are only applicable or re-

INVESTMENTS
DISTRIBUTION PLANT

TABLE IV
INVESTMENT APPORTIONMENT
DISTRIBUTION LEVEL

Level—Distribution

Components—Customer—Demand—Direct

Rate Classifications

			Customer Cost	*Demand Cost*	*Direct*
A—		DISTRIBUTION (O.H. & U.G.) DEMAND			
	1.	Land	—	—	—
	2.	Structures	—	—	—
	3.	Substation Equip.	—	—	—
	4.	Pole Towers and Fixtures	—	—	—
	5.	O. H. Conductors			
		a. Primary	$10,000	$12,000	—
		b. Secondary	—	—	—
	6.	U. G. Conductors			
		a. Primary	—	—	—
		b. Secondary	—	—	—
		c. Manholes	—	—	—
	7.	Transformers	—	—	—
	8.	Services			
		a. Overhead	—	—	0
		b. Underground	—	—	0
	9.	Meters	—	—	—
	10.	Inst. and Leased Prop. on Customers' Premises	—	—	0
	11.	Street-lighting System	0	0	—
	12.	Intangibles	—	—	—
B—	13.	General Plant (D.L.)			
		a. Land	—	—	—
		b. Structures	—	—	—
		c. Office Furniture & Fixtures	—	—	—
		d. Transportation Equipment	—	—	—
		e. Stores Equipment	—	—	—
		f. Shop Equipment	—	—	—
		g. Lab. Equipment	—	—	0
		h. Tools & Work Equipment	—	—	—
		i. Communication Equipment	—	—	0
		j. Miscellaneous Equipment	—	—	—
C—	14.	Materials and Supplies	—	—	—
D—	15.	Cash Working Capital	—	—	—
		Total Investment	$10,000	$12,000	—

quired to serve certain classes of customer loads. If, for example, the customer loads served underground could be served from the overhead system; or if all services rendered at secondary voltage could be supplied at the primary voltage level; or if none of the customers owned their own substations; or if all service provided by the company was noninterruptible power; and if the class requirements and use habits of all electric customers were alike, then all investment and operating costs would be very much the same; but that is not the case in actual practice.

The following discussion will outline the principal costing procedures and provide a more complete picture of the actual steps taken in a low level costing study.

There are five fundamental apportionment studies of investments and expenses:

1. The assignment of all investments between transmission and distribution levels, then to cost components.
2. The assignment of all expenses between transmission and distribution levels, then to cost components.
3. The apportionment of the distribution level investment components to rate classifications.
4. The apportionment of distribution level expense components to rate classifications.
5. The consolidation of transmission and distribution level investment and expense apportionments and components by rate classifications.

THE low level study begins after completion of the transmission or high level study, which, as we have previously outlined, separates all distribution level investments and expenses from high level amounts.

In this part of the procedure each distribution investment and expense account is studied to determine its function. It is then apportioned to cost components and various rate classifications on the basis of class responsibility.

It might be well to emphasize again that costing studies are based entirely upon actual test period investments and expenses, as shown by the books of the company.

Table IV (page 443), titled "Investment Apportionment Distribution Level," is a listing of the various classes of distribution level property. The table shows fifteen main investment classifications: lands; structures; substation equipment; poles, towers, and fixtures; overhead conductors; underground conductors; transformers; services; meters; installations on customer's premises; street-lighting equipment; intangible investments; general plant; materials and supplies; and cash working capital.

The basis upon which investment apportionments are made is the function of, and class responsibility for, those investments; in other words, what occasioned the expenditure. Those investments are apportioned to the classes, largely on the basis of demand characteristics.

THE low level investment apportionment procedure can be illustrated by selecting and allocating one of the distribution investment classifications. This can be done by the apportionment of an assumed amount in the investment classification, overhead conductors, Table IV, Item 5. The book amount in this account, in a costing study, would be compiled to show separately the dollars invested in

TABLE V
EXPENSE APPORTIONMENT
DISTRIBUTION LEVEL

EXPENSES
DISTRIBUTION PLANT

Level—Distribution

Components—Customer—Demand—Energy—Direct

Rate Classifications

	Demand	*Customers*	*Direct*
1— Dist. Sy. Operations Expense			
Various	—	—	—
2— Dist. Sy. Maint. Expense			
Various	—	—	—
3— Dist. Sy. Misc. Expense			
Rents	—	—	0
Joint Exp. Credits	—	—	—
4— Customer Accounting and Collecting Expense			
Various	$4,000	$4,000	$1,000
5— Sales Promotion Expense			
Various	0	—	—
6— Adm. and General Expense			
Various	—	—	—
a. Salaries Gen. Officers and Exec.	—	—	—
b. Other General Office Salaries	—	—	—
c. Exp. Gen. Office and Gen. Off. Emp.	—	—	—
d. General Office Supplies and Exp.	—	—	—
e. Special Services	—	—	—
f. Legal Services	—	—	—
g. Regulatory Commission Expense	—	—	—
h. Insurance	—	—	—
i. Injury and Damages	—	—	—
j. Employee Welfare and Pensions	—	—	—
k. Miscellaneous General	—	—	—
l. Maintenance of Structures	—	—	—
m. Maintenance of Off. Equip.	—	—	—
n. Maintenance Communication Equip.	—	—	—
o. Maintenance Misc. Property	—	—	—
p. Rents	—	—	0
q. Credits—Adm. and Gen. Transf.	—	—	—
7— Depreciation	—	—	—
8— Taxes Other	—	—	—
Total Expense	$4,000	$4,000	$1,000

primary and secondary conductors, Items 5a and 5b.

To outline the procedure, the assumed investment as set out in the primary conductor account has been apportioned between demand and customer components. The customer component amount may be obtained by using the zero intercept method. The zero intercept study is a practical method of determining, graphically, the ratio of the investment in primary overhead conductors required to serve the customers at zero load to that required at full load. The zero load component is assigned to customer cost and the balance to the demand component of that investment.

Those amounts are then apportioned to rate classifications, using class characteristic ratios. The customer investment component is apportioned on the basis of end period customer ratios of the number of customers per class, and the demand investment amount by using the ratios of the class demands at the primary voltage level.

End period customer ratios are used because the investments in a costing study are end period figures. The demands ratios per class at the primaries are used because those demands are the ones responsible for the primary conductor investments.

TABLE V (page 445), titled "Expense Apportionment Distribution Level," is a tabulation showing the main classifications of the low level operating expenses. The principal expense classifications are: operating expenses, maintenance expenses, miscellaneous expenses; customer accounting, sales promotion and administrative in general expenses; depreciation expense and taxes other, meaning taxes other than those on income.

The costing procedures used to apportion operating expenses are similar to those used in the low level investment studies.

To illustrate the expense apportionment procedure, we have selected the classification, customer accounting and collecting, Table V—Item 4.

The account, as the title implies, is a customer expense. This expense has nothing to do with demand or kilowatt-hour costs. It is occasioned mainly, by the cus-

TABLE VI
RESIDENTIAL CLASS
UNIT COST DETERMINATION
LOW LEVEL (ONLY)

	Demand	*Kwh.*	*Customer*
1. Investment Responsibility	$12,000	—	$10,000
2. Expense Responsibility	4,000	400*	4,000
3. Return & F.I.T. @ 10%	1,200	—	1,000
4. Total Cost	$ 5,200	$400	$ 5,000
5. Units—Cust. Req'm.	200	800,000	200
6. Unit—Cost @ L.L.	$26.00	.5 Mills	$25.00

* Added to cover distribution losses.

tomer-imposed functions of meter reading, billing accounting, and collecting revenues. The total amount in that account is apportioned to rate classifications by using ratios of average customers per class, per month, during the test period. Average customer ratios are used because expenses in the account would have been incurred by the number of customers billed during the year.

If figures are inserted on Tables IV and V and are assumed to represent the apportionment of all investments and expenses to cost components, the resulting amounts can be used to develop unit costs of this part of the low level service.

THE tabulation of costs, marked Table VI (page 446), is a unit cost study applying the figures shown on Tables IV and V:

Line 1 is the investment responsibility—Table IV.

Line 2 is the expense responsibility—Table V.

Line 3 is 10 per cent of Line 1 and is the assumed gross rate of return required to pay income taxes and earn a fair return on the investments used.

Line 4 is the sum of Line 2 plus Line 3.

Line 5 is the assumed load and number of residential customers.

Line 6 is the unit cost of service excluding associated high level costs, Line 4 divided by the units in Line 5.

If the unit costs derived, and shown on Table III (in the preceding high level costing section), are combined with the corresponding low level unit costs in Table VI, the figures obtained can be used to represent total low level unit component costs of providing electric service to the residential class.

Combining the unit costs shown on Tables III and VI, we obtain the total unit cost of service, as shown below:

	Annual Demand Cost Per Kw.	*Average Energy Cost Per Kwh.*	*Annual Customer Cost*
High Level Unit Costs—Table III	$60.00	5.0 Mills	—
Low Level Unit Costs—Table VI	26.00	.5 Mills	$25.00
Total Unit Costs @ Low Level	$86.00	5.5 Mills	$25.00

BASED on the assumptions used in the above calculations, the unit costs derived are those that would have been incurred by a residential class customer, having an effective or diversified load of 1 kilowatt and an annual consumption of 4,000 kilowatt-hours per year. If the annual revenue of the class is known, and it always is available in a costing study, using the above costs it is possible to determine the return earned by the residential class of business.

Knowing, too, what the investment and expense responsibilities are, it is a simple matter to determine the revenue required to earn any desired rate of return.

The unit costs derived, and the authorized return component, can be used as a basis upon which to construct realistic rate schedules.

Costing is a reasonably exact science. It is practical and based entirely on book records of the utility's actual plant investments and operatinge xpenses. These studies produce factual cost data, information that is essential to the utility for future planning, efficient operation and realistic rate formulation, and the maintenance of good public relations.

Do Government Agencies Perform *Business* Functions When They Provide Electric Service?

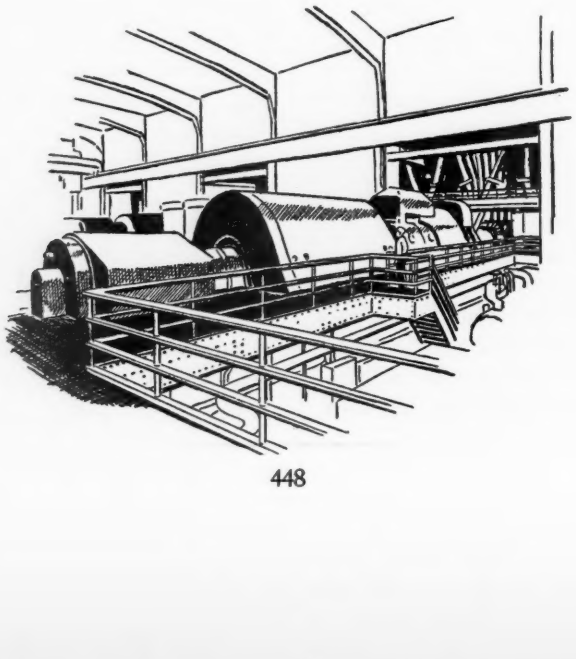
The contention has been made that when government retreats behind its own "wall of sovereignty," to engage in strictly business operations, it is in a position to deal with employees on a basis which may not be fairly comparable with the relationship between employers and employees in private enterprise. This author raises the further question as to whether government agencies are performing strictly business functions when they provide electric service —in view of the well-settled legal distinction between government activities in a proprietary as distinguished from governmental capacity.

By A. J. G. PRIEST*

WHEN governmental agencies or instrumentalities engage in the business of generating, transmitting, or distributing electric energy, they perform *business, proprietary, private* functions. They do not act in a governmental or sovereign capacity and it has long been held that they are to be governed by the same rules that control an individual or a private corporation engaged in a similar enterprise.

Robert A. Perry, member of the Wash-

*Professor of law, University of Virginia. For additional personal note, see "Pages with the Editors."



ington state legislature and Seattle labor leader, said in the January 19, 1961, issue of the PUBLIC UTILITIES FORTNIGHTLY that the exercise of the powers of sovereignty "in government operation of a proprietary business competing with a provate enterprise of the same kind, is not only bad public policy but also a breach of the basic social contract on which our system of government is founded."

As a matter of economic decency, as well as polity, Mr. Perry's conclusion is sound and solid. And he is also right as a matter of law.

Corpus Juris Secundum states the rule:

> Whatever a municipal corporation does in engaging in the furnishing and delivering of electricity, light, or power to itself or its inhabitants is done in its proprietary, business, private, or quasi-private capacity, and not in its governmental capacity or as a governmental function, regardless of whether its power so to act is inherent, implied, or is granted by state. (63 CJS, pp. 673, 674.)

THE United States court of appeals for the ninth circuit held in Gilbertson *v.* City of Fairbanks (1959) 262 F2d 734, 738, that "(w)hen a municipality engages in the business of a public utility, to wit, providing electricity to the general public, it is acting in a proprietary or corporate capacity and, therefore, is subject to liability even if, incidentally, electricity is also supplied to the city for a governmental purpose."

Tennessee's court of appeals said in Weakley County Municipal Electric System *v.* Vick, Tenn App (1957) 309 SW2d 792, 800:

> The law seems to be well settled that, generally speaking, when a municipal corporation is engaged in the business of furnishing and delivering electricity, light, or power to itself or its inhabitants, such business is done in its proprietary, business, private, or quasi-private capacity, and not in its governmental capacity, or as a governmental function.

The supreme court of Oregon held in 1958 (Hillman *v.* Northern Wasco County People's Utility Dist. 213 Or 266, 323 P2d 664, 686): "A people's utility district . . . in operating and maintaining its [electric] utility system is engaged in a proprietary function and is subject to . . . [tort] liability . . ."

THE United States Supreme Court itself has drawn a sharp distinction between governmental activity and that proprietary activity which does not involve the performance of a governmental function. This distinction is made clear in Ohio *v.* Helvering (1934) 292 US 360, in which the court said (page 369):

> When a state enters the market place seeking customers it divests itself of its *quasi* sovereignty *pro tanto,* and takes on the character of a trader, so far, at least, as the taxing power of the federal government is concerned.

The United States court of appeals for the fourth circuit, speaking through Chief Judge Parker, said in City of High Point *v.* Duke Power Co. (1941) 40 PUR NS 248, 120 F2d 866, 870, that to hold that a North Carolina municipality "acting as an ordinary private corporation in the purchase and sale of electric current . . .

was not bound by the rules governing private corporations in the transaction of their business would be without justification and in conflict with well-settled law."

JUDGE Parker quotes, as the applicable rule, this declaration by Judge Walter H. Sanborn in Illinois Trust & Savings Bank *v.* City of Arkansas City (8th Cir 1896) 76 F 271, 282:

> A city has two classes of powers, the one legislative, public, governmental, in the exercise of which it is a sovereignty and governs its people; the other, proprietary, quasi-private, conferred upon it, not for the purpose of governing its people, but for the private advantage of the inhabitants of the city and of the city itself as a legal personality. . . . in the exercise of the powers of the latter class . . . *it is acting and contracting for the private benefit of itself and its inhabitants, and it may exercise the business powers conferred upon it in the same way, and in their exercise it is to be governed by the same rules that govern a private individual or corporation.* [Emphasis supplied.]

IDAHO'S supreme court was equally positive in Hooton *v.* City of Burley (1950) 70 Idaho 369, 219 P2d 651, which involved a municipal corporation engaged in furnishing electrical energy for commercial purposes. The court affirmed a $40,000 verdict for wrongful death resulting from electrocution. Its statement of what plainly is the rule as to the liability of municipal corporations in such circumstances was:

> The operation of an electric lighting system by a municipal corporation and the sale of electric energy to private concerns, or lighting of streets by a system owned and controlled by such municipal corporation, is not a governmental function and a city is liable for the careless and negligent exercise of such undertaking, the same as an individual or private corporation exercising a similar right.

PROFESSOR Kenneth Culp Davis says in his current *"Administrative Law Treatise"* (Vol. 3, § 25.07, p. 459), "The central idea in the law of municipal tort liability is that a municipality is liable for its torts in the exercise of proprietary

but not governmental functions." Later in the same section (at page 464), Professor Davis refers to a survey of the many law review articles written on the subject and observes, "The survey shows that police and fire departments are almost always classed as governmental, and furnishing of water, gas, and electricity almost always proprietary."

Probably the most authoritative text in this area is the encyclopedic *"Law of Municipal Corporations,"* by McQuillin, which declares (Vol. 18, § 53.101, pp. 417-419, 3rd ed.) that "it is generally agreed that the maintenance and operation of an electric light system by a municipality and the selling of electricity to private consumers is not a governmental power, but is a proprietary and private right and duty, for the negligent exercise of which the municipality will be held liable in damages the same as a private corporation or individual exercising like rights . . ." and that liability is to be determined "by the rules applicable to private corporations or persons in the same kind of business."

IN this state of the law, it is difficult to understand why a governmental agency engaged in furnishing electricity (or an electric co-operative subsidized with tax dollars) should be able to deal with labor more harshly or more capriciously than a neighboring investor-owned utility. Such an agency clearly "is to be governed by the same rules that govern a private individual or corporation." Why should there be any difference between the treatment of labor and, let us say, liability for negligence? Use of labor's ultimate weapon, the strike, against any public utility involves grave consequences, as the paralysis imposed upon New York city by a handful of tugboat workers has so recently demonstrated. But the public is not more seriously inconvenienced if the utility service affected by a strike happens to be provided by a government instrumentality.

There is no justification for paying a government power lineman less than his private power counterpart receives for the same work. Ice storms are just as dangerous in a government power service area as they are two miles down the road, where electricity is furnished through facilities built with the savings of investors. Hours are as long, conditions can be as agonizing, in one area as in the other. Why should there be any difference in the compensation received?

GOVERNMENT agencies which provide electric service are formidable business adversaries of investor-owned companies. As a record made before the Federal Power Commission in 1959 shows: (1) Government power has taken over electric service from investor-owned companies in all of Nebraska, in almost all of Tennessee, in parts of seven other states, and in numerous localities in still others; (2) electric facilities lost to government power aggregate several hundred million dollars; (3) losses of customers and electric revenues have been frequent and substantial; and (4) vilification and misrepresentation of the investor-owned industry have been characteristic techniques used by advocates of government power.

In those circumstances, should there be any question about reasonable expenditures made by either rival for the purpose of standing up to the other?

Whatever may be said about the respective virtues of free enterprise and government operation in the electric utility field, the two systems *are* business rivals. They compete strenuously, and rudimentary fairness would seem to require that neither be given the undue preference, the discriminatory advantage, so contrary to our basic traditions. Certainly, as a matter of theory, there should be no discrimination between business competitors in such matters as labor relations, taxation, and the use of government funds.

IF Butcher A were competing against a major adversary, Butcher B, in Seattle, in Brooklyn, or in Charlottesville, Virginia, and (1) if Butcher B paid either no taxes or one-third of those exacted from Butcher A, (2) if Butcher B could borrow from the United States Treasury at 2 per cent while Butcher A was required to get his loans from a local bank at 6 per cent, and (3) if Butcher B paid his nonunion meat cutters $1 per hour less than Butcher A paid his organized cutters, it is obvious that Butcher A would be dangerously perched on a greased chute to bankruptcy.

THE analogy between our butchers on the one hand and government power and investor-owned power on the other is not exact, but it is too close for comfort. Labor, business generally, and those Americans who believe, with Abraham Lincoln, that "In all that the people can do individually for themselves, government ought not to interfere," might well consider both what and whose ox will be gored next.

TVA Coal Mining Operations

"IF it is proper for the federal government to be in the business of producing electricity on the original assumption of the use of water power to produce it, then where can valid objection be made to the purchase of coal lands now that water power has largely been abandoned by TVA for the production of electric power through the use of steam plants?

"Or where lies the inconsistency of having the federal government in the business of coal mining when it uses coal in all its operations, when it has been for years assumed that there is no objection to the authority's production of fertilizer?

"It seems to us that this question of TVA's entry into the ownership or mining of coal is a relatively small detail. If we are to accept the viewpoint of the public power lobby in this country, a viewpoint to which the . . . President is definitely committed, then there can scarcely be a consistent basis for objection to the invasion by the federal government of any national industrial or commercial field of activity."

—EDITORIAL STATEMENT,
The Knoxville Journal.

Land Use Experience Near Atomic Power Plants

By EMERY B. DOWELL*

Acquiring and condemning land to be used for or near a nuclear power plant is not the same as routine land acquisitions by a utility company. But although there are new problems, this writer believes there are none which are insurmountable or which will require revolutionary changes. The important objective is to gain public confidence in nuclear structures as valuable and neighborly additions to the local area.

LAND use experience near atomic power plants is apparently a relatively new topic of exploration. This has not been, in my judgment, because it is too sensitive to talk about. This writer's investigations have revealed no evidence that makes this subject controversial. In that regard, let me make a fundamental point clear: In five years of work at the task of seeking to inform the public about all aspects of the coming of atomic power, I have become absolutely convinced that there is *no* aspect too sensitive to talk about.

Certainly that is not meant to imply that nuclear power plants and other large industrial applications of nucleonics present no new concerns for many people, planners among them. There are problems. But there are no insurmountable problems, and there are *none at all* that require changes in the way people must live who inhabit the communities near atomic installations. And the best, quickest way for all problems to be understood and resolved is to talk about them. In the very early days of this business we were

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startled by the widespread notion that electricity made with nuclear fuels is new and different from old-fashioned electricity. Of course, it is not, but a lot of talking was done before that idea was laid to rest.

That is why the Pacific Gas and Electric Company has given this writer the responsibility of explaining this aspect of locating nuclear power plants in central and northern California. The following discussion is confined to the subject of land use.

The Size of the Nuclear Plant Site

To form the basis for some evaluations of experience on this subject, it was necessary to develop some fundamental statistical data on the environments of nuclear power plants, in operation or under construction. Information was not available to me on all plants, but it was possible to prepare a representation from data provided by the companies that built these plants. To avoid the burden of statistical recitation, a chart has been prepared. (See page 455.) Let us examine it by asking a group of questions, then seeking the answer to each in turn by referral to each succeeding column:

First, how many acres are needed for a nuclear power plant?

Is there a relation between site size and plant size?

What are the exclusion radii? Or simply how far are the reactors from the property lines where absolute traffic control ends? (On this subject, understand that no constant danger exists within a plant's exclusion radius. This is the circle within which it is appropriate for the operating agency to have absolute control in the unlikely event of an accident. Also, it is appropriate to point out that all industrial facilities have areas of exclusion, often much greater than these, for safety and security. Sometimes plants have "natural" exclusions set by how much the human nose can stand! That never is true of electric power stations.)

What are the near towns, and how near are they?

How many people live within two miles? Five miles? Ten miles? Twenty miles? Fifty miles?

What are the commercial or economic characteristics of the surrounding areas?

What are the topographies of the surrounding areas?

The accompanying Chart I shows these relative statistics. Some columns show a consistency that suggests accord among experts regarding what is proper on that particular factor of plant siting. But where consistency is apparent it does not approach a rigidity that implies rules to be applied universally. Other columns reveal variations that make it apparent nuclear power plants are being built satisfactorily in very divergent environments. Reading horizontally, the chart shows no precise patterns. Each environment, taken as a whole, is independent.

Note particularly one remarkably variable factor: population. Populations vary from Humboldt Bay and Consumers Power—similar medium-sized plants—where 80,000 live within 50 miles, to Dresden—largest plant on the chart—where almost six million live within 50 miles.

Note, too, that site sizes are very diverse, and have almost no relationship

CHART I

SITE ENVIRONMENT COMPARISON—NUCLEAR POWER PLANTS

Plant and Location	APP Site Size	Thermal Power Megawatts	Exclusion Radius Miles	Nearby Cities and Distance to Them	Population in Thousands Within Various Radii 2 Mi.	5 Mi.	10 Mi.	20 Mi.	50 Mi.	Character	Topography
Humboldt Bay (No. Cal.)	137A	163	0.2	Eureka, 4 mi.	2	35	40	50	80	Suburban-Urban Lumber-Dairying	Bayshore-Ocean Coastal Plain Mountains
Vallecitos (Cent. Cal.)	1,600A	50	0.4	Livermore, 7 mi. San Jose, 17 mi. Oakland, 20 mi. Berkeley, 28 mi. San Francisco, 30 mi. Richmond, 35 mi.	1	5	25	300	3,100	Rural-Suburban Agricultural	Valley Rolling Hills
Dresden (No. Ill.)	940A	630	0.5	Chicago, 40 mi. Gary, Ind., 45 mi.	1	3	25	125	5,700	Rural Agricultural	Rivers Plains
Yankee (No. Mass.)	2,000A	392	0.2	North Adams, 9 mi.	1	2	30	110	1,250	Rural Agricultural	Heavy Woods Abrupt Hills
Consumers (No. Mich.)	600A	250	0.5	None	1	5	9	30	80	Rural-Suburban Agricultural	Lake Shore Plains
Hanford (S. E. Wash.)	400,000A	Classified	5	None	0	0	1	6	210	Government Reservation	River Valley Desert
Senn (So. Italy)	300A	508	0.4	Naples, 35 mi.	1	20	100	150	4,300	Rural Agricultural	Plains to Hills
R. W. E. Kahl (West Germany)	10A	60	0.1	Hanau, 6 mi. Ascheffenburg, 9 mi. 7 Others, 10-47 mi.	15	80	370	1,600	4,200	Rural-Urban Agricultural	River Plains

to plant capacity, or power level. It must be pointed out that many of these sites have been acquired as the eventual location for more than one reactor. Also, some of them, such as Vallecitos and Hanford, have extensive research facilities on the same sites as the power plants.

There is a consistency of exclusion radius. And in no instance except Hanford, where the federal government has a vast reservation and uses land prodigally, does it exceed one-half mile.

COLUMN seven seems to reveal the most significant consistency. It reports some form of agriculture as a major use of surrounding land at every one of these plants except Hanford. (And even there agriculture dominates outside the huge government reservation.) In other words, up to now nuclear plants have been and are being built out in the country. There was and is just one important reason for that: careful caution. The nuclear power plant industry started ten years ago with essentially no experience to guide it. So it did the logical thing from a technical standpoint, from a practical standpoint, and, not least of all, from a public relations standpoint: It went out into the country to build its first efforts.

Starting Land Use Experience from Scratch

EVERY authoritative opinion agreed that this was good policy for the fledgling industry, but there was almost equal unanimity among the same authorities that technical experience probably would prove it unnecessary. Ten years of experience and a safety record second to none in any industry, seem to be proving that nuclear plants are ready to move closer to town. The growth of suburbia in some locations is bringing the towns to the plants.

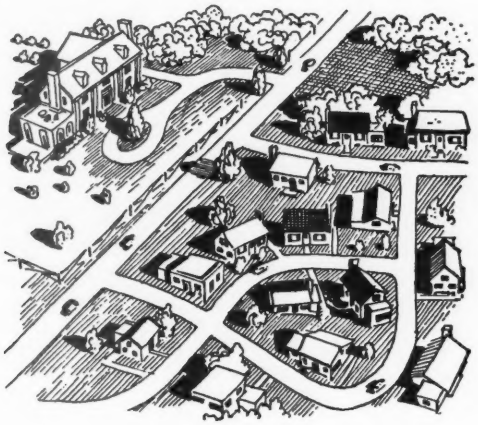
That has significance to the all-important economics of nuclear power plants. It will mean that the electricity generated by them can be produced closer to the markets for the electricity, sharply lowering transmission costs, and thereby keeping rates down.

To emphasize the change occurring with regard to isolation, General Electric Vice President Francis McCune, one of the leaders in the nuclear power field, said recently that the time will come when a plant could be built on Times Square in New York without risk and without furor over safety. As a matter of fact, Consolidated Edison's Indian Point nuclear power plant is nearing completion now only 35 miles up the Hudson river from Times Square.

THE best example of the now beginning trend to bring nuclear plants closer to town is Pacific Gas and Electric Company's Humboldt Bay plant. It is being built four miles from Eureka, and in an area already predominantly suburban rather than rural. At Humboldt Bay this is made possible by the happy and logical combination of the aforementioned experience and advancing technology.

PG&E and General Electric engineers working together have developed for Humboldt Bay a new concept of reactor containment, called pressure suppression. (See frontispiece, page 14.)

Pressure suppression substitutes a water-filled condensation tank for the now almost familiar dome or capsule that has been used to contain earlier reactors. The



underground pressure suppression tank would catch and suppress by condensation the steam carrying any escaping radioactivity that might be freed from the reactor system in the unlikely event of an accident.

Pressure suppression accomplishes this more quickly and in a smaller volume of space. Its designers and evaluators consider pressure suppression a step toward greater safety, one that will allow plants to be constructed on a smaller site and with less concern for the characteristics of the surrounding environment.

THOSE are the facts from the chart, and some essentially factual observations drawn from the chart data. It is fair to state that, based upon facts, planners charged with the responsibility for administering orderly land use have no new and different problems to contemplate from the construction of nuclear plants. Based upon facts, they can be considered just as any other industrial facility, including conventionally fueled power plants.

But, as we all know very well, planning problems are not always based upon facts. Emotions often seem to be the most important factor in the formation of public opinion.

SO we who must build nuclear-fueled plants, and others who must judge the propriety of our using land for them, must anticipate some problems. What are the causes of them?

Public attitudes cause them. Misunderstandings cause them. Misinformation—deliberate and innocent — causes them. And problems emanating from those causes are every bit as real, every bit as important, every bit as deserving of attention as any that might be caused by technical or statistical facts.

That is particularly true in the area where you work, in the administration of public business. It is the duty of planning authorities to respect the free citizen's right to an opinion and his free right to stand up and express his objections. They have to be concerned with the possibility that a citizen's property

may be affected adversely by what the public thinks, regardless of factual accuracy.

But it is their obligation also to work to avoid the possibility that an entire community and its economy might be depressed by what some of its citizens believe.

NOTHING overcomes the causes of those kinds of problems so well as *experience*. To provide an imperative foundation, I have dwelt at length on the facts of nuclear plant land use and environment. Now to these facts let me add some *experience* near nuclear plants.

Vallecitos is located in the heart of the Livermore valley in southern Alameda county. It is one of the prettiest places on earth. It boasts some of the most handsome and highest-priced gentlemen's ranches and suburban homes to be found in America. Reactors of substantial size have been operating almost constantly there for three years.

Land has appreciated in value at rates consistent with trends apparent before the reactors were built. New and even bigger homes have continued to be constructed. No trends of land use naturally established before Vallecitos was built have changed.

Humboldt Bay is not built yet, but the public has known that it would be built at that site for nearly three years.

Prior to the announcement, a medium-priced residential subdivision (Sea View Manor) was completed and occupied one-half mile from the site. Occupancy has remained at 100 per cent and resales have followed appreciation trends consistent with those apparent in the entire region. Another half-mile farther away a new tract (Parkwood) recently was started on Humboldt Hill. These are slightly larger homes. The sales experience in this tract indicates that the eventual construction of the nuclear plant has caused no variation up or down from the expected marketability of the homes.

Results of Nuclear Plant Land Use

THIS experience at Humboldt Bay has added significance because, on the same site where the nuclear plant will be, a conventionally fueled power station was started before any of those homes were built. Such an industrial facility was a known neighbor from the beginning. Now an industrial facility is to change from one without nuclear materials to one with nuclear materials in use. But we can find no evidence that the knowledge has meant anything to land use or land value.

Here in California hardly anything can be located except it be in a place where economic and population growth is occurring. California, and everything in it, is just growing, period. Let us look at an eastern location where that is not the case. Here is an authoritative analysis of the effects of the Yankee Atomic plant on the community of Rowe, Massachusetts:

> Growth developments since the plant was announced have been negligible. The only noticeable change is that, prior to the announcement, the area was somewhat decadent and to some extent properties were being abandoned. Since the plant announcement, the local economy has tended to stabilize, arresting the previous trend. Property values have increased somewhat, probably due to wishful think-

ing on the part of local people who were assuming an influx that did not occur.

There is the pattern again: Not minus. Not much plus. Not much of a factor.

So far as the local Rowe area is concerned, the principal effect of the Yankee plant has been to reduce the local tax rate. For example, one man, whose property taxes on 150 acres were $189 last year, is paying $72 this year.

There is no need to discuss the relationship of public utility property taxes to total taxable wealth in California. Neither is there any need to recite the relationship of local tax rates to the way a prospective buyer or developer evaluates a piece of property.

With regard to these other plants, where agriculture prevailed before, it has continued without measurable effect from the presence of the nuclear facility.

Negative Public Sentiment Factors

WHAT is the principal public concern with regard to the establishment of any industrial plant? It is expressed in many ways, but it seems to me that most of that concern can be classified as a fear of pollution. Pollution of the air, of the water, and of the ground.

The only thing a nuclear reactor produces that could have a detrimental effect on the surrounding environment, if by some fantastic unlikelihood it were to be released accidentally, is excessive radioactivity. Radioactivity is not commonly recognized yet by the public as a pollutant, but, for our considerations, it fits that classification.

Therefore, this well - established fact is significant: Radioactivity is the easiest pollutant to detect and control that industry ever has had to deal with. Monitoring devices which are standard in the design of every nuclear facility can detect the most minute radioactivity in air or water or soil. They detect it, measure it, and activate means to control it before concentrations even approach dangerous levels.

The routine monitoring of milk for radioactivity is as easy as measuring butterfat content. Field crops and commercial catches of fish can be and are being monitored before and after the establishment of a source of radioactivity in the environment of their harvesting.

Science has learned how to do these things. It has learned how to make radioactivity much less troublesome as a pollutant than many of the chemical acids that emanate from industrial plants. Monitoring is important. It also is efficient and it is done carefully.

Getting Used to the Idea

PERHAPS it is typical of every generation to view with concern the new devices of man's ingenuity. There is nothing fundamentally wrong with that attitude. Caution is not going out of style, and the nuclear industry would be the *very* last to suggest it.

I remember stories about how gingerly my rural Missouri grandmother approached the family's first hand-crank telephone, but she had gotten over it by the time I came along. My own father had a pretty low regard for airplanes until I joined the Navy and learned to fly one.

But the enormous usefulness of those things overcame their reluctance, each in turn. The enormous usefulness of nuclear energy, when a single gram of fissioning uranium will generate more electricity than three and one-third tons of coal, will overcome the concerns of this generation.

The story of how we are learning to live with the peaceful applications of nuclear energy is a long story. But it is not a sad story. The lessons that need to be learned are being learned with consummate care and deliberation. With realistic understanding of the great potential risks, industry is applying greater margins of safety than ever before were applied to a new technology.

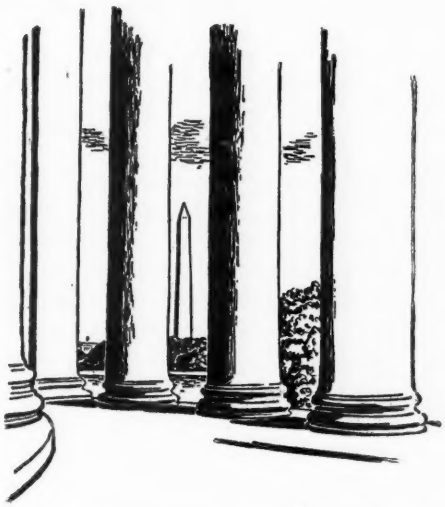
LIKEWISE, the nuclear industry recognizes that its acceptance by the public as a neighbor must be achieved through candid, honest efforts fully to inform the public. Planning commissioners and planning staff executives have a responsibility to the public to seek the equitable, beneficial, and orderly use of our precious land. In that task all may be assured that the representatives of the nuclear industry and the utility industry will co-operate in every way that is appropriate—and as long as is necessary. We have a common goal upon which I am sure we all agree: establishment of the peaceful, safe, and productive atom in our communities as a responsible servant of mankind.

Monorail Lengthened in Disneyland

"WALT DISNEY is enlarging his Disneyland monorail from a circuit of less than a mile to one of nearly 2½ miles, this time with the added practical purpose of serving the hotel he operates in conjunction with but some little distance from his amusement park. The less than $2 million cost of the extension is a pittance compared with a similar length of urban expressway. While so many American cities talk wistfully of monorails and other forms of rapid transit, Mr. Disney goes ahead and runs one at a tidy profit. Possibly if cities thought of monorails in terms of popular amusement as well as traffic relief, they might get on the ball, too."

—EDITORIAL STATEMENT,
The (Baltimore) Sun.

Washington and the Utilities



Permanent Oversight Subcommittee?

REPRESENTATIVE Harris (Democrat, Arkansas) on February 28th announced that the House Committee on Interstate and Foreign Commerce, of which he is chairman, has agreed to the establishment of a regular Subcommittee on Regulatory Agencies. This is in accordance with the Rules of the House and is designed to carry out the committee's duties under the Legislative Reorganization Act of 1946.

The new subcommittee will take over on a permanent, or at least continuing, basis the work performed by the Special Legislative Oversight Subcommittee in the last three sessions of Congress in inspecting the operations of the Federal Communications Commission and other federal regulatory commissions. The new subcommittee, however, would not be so much of an investigating group as a liaison or supervisory group. It would follow the work of the commissions and check periodically on their respective performance and whether new laws, rules, or policies were required to make them operate as Congress intended. This development is expected to supplement the work of the White House Legislative Overseer, James M. Landis.

Chairman Harris pointed out:

> I expect this to be a permanent subcommittee for the purpose of examining the adequacy of the laws and their administration by the agencies whose activities are subject to the jurisdiction of the committee. This regular subcommittee will take the place of and supplement the work of the former Special Subcommittee on Legislative Oversight.
>
> I have no intention of abandoning or neglecting the responsibility of the Committee on Interstate and Foreign Commerce in this important field. Our committee is familiar with the problems and has the facilities to deal with them. The major regulatory agencies whose activities are under the jurisdiction of our committee are "independent agencies" of the government. They are an arm of Congress and, therefore, primarily subject to the legislative oversight of our committee.
>
> Through the new subcommittee we will exercise continuous watchfulness of the execution by the administrative

agencies of those laws, the subject matter of which is within the jurisdiction of the committee.

REPRESENTATIVE Harris stressed that both substantive and procedural law will be examined and recommendations will be made concerning any necessary legislative changes. Chairman Harris said on this:

> The time has come to close the regulatory gap between promise and performance. Deficiencies in the substantive or procedural law responsible for this gap must be corrected by legislative or administrative action. The American people are entitled to speedy and inexpensive processing of matters before administrative commissions. There is no reason, for example, why people needing air service should have to wait five years for the government to act. There is no reason why false and misleading advertising should remain in a gray area, unchecked by regulation.

Chairman Harris stated he was gratified by recent actions taken by several agencies seeking to improve the effectiveness of their operations and the expedition of their work. "It is a most encouraging sign," he stated.

Emphasizing the need for further action, Harris said:

> We should concentrate on developing concrete legislative proposals and administrative measures to eliminate bottlenecks and make certain that the laws keep pace with changing needs. As stated in the Oversight Subcommittee's report of January 3, 1961, "We cannot afford to be using horse-and-buggy approaches to space-age problems."

REPRESENTATIVE Harris commented that the new subcommittee will require the services of some technical staff but expects to utilize the highly competent regular professional staff of the parent committee. He further said that he would announce the membership of the subcommittee within a short time.

Progress on Kennedy Appointments

No trouble has been experienced so far by the Kennedy administration in connection with any of its appointments in fields of interest to public utilities. But a few small clouds seem to be forming on the horizon over the Federal Power Commission. President Kennedy's appointment of Norman Clapp to be REA Administrator went through the Senate without a hitch, as did the appointment of Aubrey Wagner, former Tennessee Valley Authority engineer, to be a member of the TVA board of directors.

Two regulatory appointments of President Kennedy have been confirmed by the Senate. These include William L. Cary and former Senator J. Allen Frear (Delaware Democrat) to vacancies on the Securities and Exchange Commission. Cary will take the spot left open by the resignation of Edward N. Gadsby, former SEC chairman. As this term has only three months to run (expires June 5th), Cary was also confirmed for a full five-year term beginning thereafter. The post of Deputy REA Administrator has gone to a former director of the National Rural Electric Co-operative Association. He is Richard A. Dell, a former career employee of REA (eighteen years) before he became associated with the NRECA. Dell has been described by an Agriculture Department announcement as "a determined

advocate of area coverage for rural electric and telephone service." During the month of February REA approved four rural telephone loans; three went to cooperatives and one to a private company.

WITH respect to the FPC, there was some delay in sending to the Senate the nominations of Joseph C. Swidler, former chief counsel of the TVA for many years, and Howard Morgan, former Oregon Public Utility Commissioner. There apparently has been no opposition whatever to Commissioner Morgan, but a legal question has arisen in the case of Swidler, who is also understood to be President Kennedy's choice for chairman of the FPC. The possibility exists that the White House is awaiting clarification of the legal question as to whether the present chairman of the FPC, Jerome K. Kuykendall, can be required to step down from the chairmanship before the end of his term. If that can be worked out, the White House probably will send both FPC appointments to the Senate at the same time.

President Eisenhower appointed Kuykendall chairman in April, 1953, and reappointed him for a new five-year term in June, 1957. This was done under present law which authorizes the President to designate the commission's chairman but does not apparently give him authority to remove the chairman except for cause (misfeasance in office, etc.). There is a widely held legal view in Washington circles that President Kennedy could not under present law remove Kuykendall as chairman (there is no doubt about Kuykendall's right to stay on as a member of the commission) until the expiration of his term, June 22, 1962.

PRESIDENT Kennedy has shaken up the top command of the six-month-old National Capital Transportation Agency by choosing C. Darwin Stolzenbach, a Maryland civic worker, as its new administrator. The agency is an outgrowth of the Mass Transportation Survey report of 1959 that recommended a heavy-duty rail system as the nucleus of a 99-mile area transit network around the nation's capital. Stolzenbach replaces H. Holmes Vogel, an Eisenhower recess appointee and vice president of the Chesapeake & Potomac Telephone Company. Joseph G. Matthews, a railroad executive, will be the agency's deputy administrator.

Depressed Area Bill Progressing

THE antiduplication provision of the depressed areas bill as it affects public utilities has drawn some fire in the House. This bill has been cleared for action in the Senate where prompt passage is expected. The Senate bill (S 1), sponsored by Senator Douglas (Democrat, Illinois), contains a provision that any loans or grants made to municipalities or other assistance in depressed areas would not be used to establish public utility facilities which would compete with existing investor-owned utility services unless the latter were unwilling or unable to furnish the proposed service—as certified by the state regulatory commission.

This provision came under attack before a House subcommittee of the Banking and Currency Committee when James L. Grahl, spokesman for the American Public Power Association, said that it amounted to an invitation to "private power companies to invade the service areas of local publicly owned systems." Grahl said he did not expect municipal plants to be getting loans or grants under this bill to any extent, but that the enactment of such language by Congress would

improperly restrict the rights of local communities to decide what type of project would best aid depressed areas.

FPC Gas Rate Area Plan Meets Opposition

THE hope entertained last year by the FPC majority that its area plan for fixing gas producer prices might be a useful solution to its backlog of producer rate cases is not as bright as when the plan was announced last fall. The critical comments of the White House regulatory adviser, James M. Landis, in his report to the President on regulatory agencies, would indicate that Landis had little enthusiasm for the proposal. He apparently favors exempting smaller producers from formal proceedings on a de minimis basis, while fixing large producer rates on the conventional rate base approach.

The FPC, through a hearing examiner, heard some further revolt from the production fields early in March when a prehearing conference at Midland, Texas, disclosed wide differences of opinion on the FPC proposal to fix natural gas producer rates on a geographical regional basis.

Last September, in an effort to find a short cut in disposing of over 3,000 producer rate cases which have piled up since the Phillips decision in 1954, the FPC adopted this plan. It divides the United States into 18 different areas in which gas prices will be set at predetermined levels. Prior to that, the commission had attempted to follow the conventional case-by-case pattern of fixing return on a rate base finding in each case.

CHIEF FPC Examiner Edward B. Marsh is conducting the field conference to work out further details. So far ten of the major producing companies, including Humble Oil & Refining Company, have concurred in the area plan approach. So have the state commissions of California and Wisconsin. But a number of producer, as well as consumer, interests attacked the proposed west Texas-New Mexico area rates.

There were complaints about the expense and time required to answer FPC questionnaires. Some producer lawyers persist in denying that the FPC has authority to regulate gas producer prices. They in turn were accused of trying to reargue the Phillips decision all over again. Coal industry representatives were present at the Midland, Texas, conference with a view to having the FPC limit the use of gas. Adding all this to the possible lack of enthusiasm at the White House suggests that the FPC may itself decide on a different tack if the two new Kennedy appointees to the commission bring with them hostile views on area rate fixing.

Interior Department Activities

INTERIOR Secretary Udall announced early this month that he plans to move "without delay" in response to President Kennedy's call for a more vigorous natural resources development program. No details of new resource development projects were announced. But the department made public a memorandum from Udall to all Interior employees saying that Kennedy's recent special message to Congress on natural resources is "in the nature of a command . . . for a vigorous program to carry out the President's stated wishes."

"It will not be sufficient for us to wait until we are asked to take action. Instead, we must take the initiative, anticipating the needs and seeking new ideas," Udall said.

Telephone and Telegraph

Pentagon Eyes Civil Satellite Program

THE possibility of duplication of space communications systems by the civilian and military has been raised by Richard S. Morse, Army Assistant Secretary for Research and Development. He stated recently that it would be necessary for the Army and the National Aeronautics and Space Administration "to review plans" and avoid duplications in the space satellite program. At the core of this suggestion seems to be the question of just who will control the space communications program. Apparently the Pentagon, representing military interests, would like to see the civilian-run NASA get out of the space field or at least merge with the military program.

The suggestion that the military take over the communications satellites was made in an Army reply to questions submitted by the House Space Committee. Lieutenant General Arthur G. Trudeau stated that greater emphasis should be placed on the military use of communications satellites and he noted that the "commercial aspects should be subordinated to the military, particularly at this time." It is General Trudeau's position that during the periods when the military needs are not high, "we could supply substantial message capacity to civilian users."

THE picture has been further complicated by the recent order of Defense Secretary McNamara, which assigned the Air Force almost total responsibility for research and development of military space vehicles. Secretary McNamara's order did not bar the Army and the Navy from future use of specialized space vehicles nor did it take away from them communications and navigation satellites they now are developing. His order, however, does fix responsibility "for research, development, test, and engineering of satellites, antisatellites, space probes, and supporting systems" with the Air Force.

The real question in this conflict seems to be: Will private industry be pushed out of the satellite program in favor of a military-operated system? Before leaving office, President Eisenhower initiated a policy of co-operation between government-owned space facilities and the Bell system and other companies which might seek to get communications satellites into orbit. Several companies already have indicated their interest in participating in such a program. This policy has in the past been supported by the NASA.

Should the Pentagon's attempt to take over the NASA or its communications satellite program receive support from the White House, it could well be the first step toward cancellation of the co-operative policy established by Eisenhower. There is the potential threat that the Air Force might ask for the same authority that the Army requested prior to Secretary McNamara's order which put the Air Force in the driver's seat. The long-term effect of such an action could be the government control of all space communications, including domestic long-distance service which moved via this medium.

SATELLITE communications are in their embryo stage. It can be expected that more such controversies will take place in the future as conflicts of jurisdiction arise between various government commissions and within the departments themselves. The entire satellite program, and even more specifically the communications satellite project, has some very complicated international implications. Disputes already have arisen in our own government agencies and we can expect the same thing to happen when international discussions take place. Now would seem to be the time to set up exact areas of responsibility within the federal government so that when international talks take place regarding the allocations of frequencies, etc., at least there will be peace in the home camp.

Minimum Wage Cleared for House Action

THE House Committee on Labor has recommended that the minimum wage be increased to $1.25. The reported bill varies slightly from that recommended by the administration. The President proposed increasing the wage for presently covered workers to $1.15 four months after enactment, then to $1.20 and to $1.25 in two annual steps. The committee bill would raise the wage to $1.15 in four months, keep it there for two years, and then boost it to $1.25.

The extended coverage provisions, as related to the telephone industry, remain substantially the same as in the original administration recommendations. The language of the bill grants an exemption to "any switchboard operator employed by an independently owned public telephone company which has not more than 750 stations." Estimates are that this will take in some 5,000 telephone operators who are not now receiving the basic minimum wage. The committee, in earlier action, had included recommendations that hotel and restaurant workers in establishments doing $1 million or more in business a year should be covered. However, at the last moment this extended coverage provision was stricken from the bill which the committee reported.

IN the light of the Rules Committee's prompt action on other legislation, it would seem that the House will vote on this measure before the Easter holiday. The amendments to the Wage-Hour Act will be the first significant legislation which has received consideration by Congress since the beginning of the session. Up to this time most of the congressional activity has centered around the organization of the House and Senate itself, granting committee funds, and receiving various reports and recommendations from the executive branch of the government.

Many Washington observers expect a sharp floor fight on the amendments to the Wage-Hour Act. It is anticipated that numbers of amendments will be offered

from the floor, especially concerning the extended coverage provisions. Strong Republican opposition exists to the $1 million gross business limitation which is the general rule in the bill. They believe that the law should not be based on volume of business, but on locations and numbers of employers' establishments. The bill already has gone through several changes and it will probable undergo more before it reaches the President's desk.

Domestic and Foreign Space Communications

THE future communication needs of underdeveloped nations of the world must be given equal consideration with requirements of highly industrialized nations. This was part of the recommendations submitted by the General Electric Company to the Federal Communications Commission in the early part of March. The commission had requested information to aid in the forming of domestic and foreign policy on space communications.

General Electric spokesmen asserted that the equitable allocation of radio frequencies for space must be a major item in this policy and must be based upon world-wide as well as national needs. GE, therefore, recommended that the commission formulate policy geared to a recognition that effective allocation for space communications requires multilateral international agreement as has formerly been the practice with other types of communications. Company officials further stated that efforts in space communications must take into account the practicalities of securing such agreements.

Proposing solutions for the overcrowding of communication radio channels, GE recommended certain exclusive allocations with the idea that these changes should be proposed at a forthcoming international meeting on radio regulations in 1963.

In its statement to the commission the company released details of its concept for a world-wide satellite system handling long-distance communications traffic. The company proposed a global communications system based on earth orbiting satellites, with provision for local, national, or private ownership of ground terminals. This system, according to GE, would supply service to the existing communication companies, thereby providing for the maximum growth opportunity both for privately owned U. S. telecommunication carriers and for those carriers operated by other countries and the underdeveloped nations of the world.

Facsimile Mail Program Halted

POSTMASTER GENERAL DAY has stated that his department will drop the experimental facsimile speed mail program because it is too costly. During the Eisenhower administration some $4.5 million was spent to develop this fast means of transmitting letters, and indications were that the system might be in general operation in three to four years.

The communications industry has expressed concern over the federal government entering into the transmission of mail by facsimile methods. It is their feeling that such transmissions should go through private industry and that the federal government should pay for this service. In effect, this would be similar to the arrangements that the government now has with railroads and airlines for the transportation of mail. There is speculation that Postmaster General Day does not really intend to give up facsimile mail but to slow it down.

Financial News and Comment

By OWEN ELY

The Fed Is "Nudging" Interest Rates—Short-term Up, Long-term Down

THE Kennedy administration seems to have been successful in enlisting the co-operative support of the Federal Reserve Board for its dual objectives—lower long-term money rates to boost business activity, and higher short-term rates to check the gold outflow. Federal Reserve Bank discount rates had already been reduced as early as last June, and later the board changed the system of cash reserve requirements for member banks in order to add a substantial amount of lending power. It also bought Treasury bills in the open market, the traditional method of giving aid to business by making bank funds available. Thus the banks have enjoyed excess reserves for the past eight or nine months. One of the results of this move was to reduce yields on 91-day Treasury bills from around 4½ per cent in December, 1959, to about 2⅜ per cent in February, 1961.

Yields on three-year to five-year Treasury issues also dropped from 5 per cent to nearly 3½ per cent; yields on long terms were down from 4⅜ to around 3¾ per cent.

However, as indicated in the accompanying chart (from the First National City Bank's "Monthly Letter" for March) money rates did not decline to the low levels of the 1954 and 1958 recessions, when short-term Treasury bills sold at less than a 1 per cent basis. Moreover, new long-term corporate bonds still have to pay about 4.30 to 4.65 per cent (as indicated in the table of February offerings on page 472), while high-grade corporate bonds averaged about 3 per cent basis in 1954 and less than 4 per cent in June, 1958. However, the decline in yields from the high points reached around the end of 1959 has been nearly equal to the dips in the earlier recession periods.

IN order to sustain short-term money rates the Federal Reserve in 1961 has

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been selling bills when necessary, although it has also been buying some other Treasury issues. The Treasury has also concentrated more of its financing in the short-term field and nothing longer than a ten-year maturity has been offered since last fall. As a result of this and other factors, short-term rates have hardened and the gold outflow has now apparently dried up—there was no loss of Treasury gold in the two weeks ended March 8th.

The Federal Reserve's decision to purchase longer-term U. S. government bonds has run into some opposition despite the fact that it was favored by Allan Sproul, former president of the New York Reserve Bank, and by Treasury Under Secretary Roosa, a former assistant to Sproul.

Of course, the Fed's practice of pegging government bond prices at par or over during the 1940's was frowned upon as inflationary, and was discontinued in 1951. Mr. Sproul, chairman of the President's task force on "The Economic Situation and the Balance of Payments," stated that the new policy will not involve "pegging of rates nor attempts to prescribe a whole pattern of rates . . . but it would mean nudging a sticky market in the direction indicated by the underlying factors."

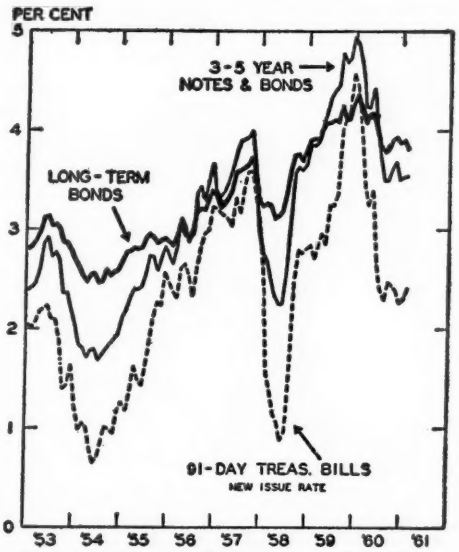
THE New York Federal Reserve Bank was joined last spring by the Philadelphia Bank, in its long fight against the "bills only" policy. Fed Chairman Martin recently admitted to a congressional Joint Committee that disagreement over "bills only" had been more marked and more continuous than on any other banking question of the past decade. Three modifications in the wording of the rule regarding purchases of governments were made—one last March, one in May, and the final change in October which opened the door to longer maturities.

Major recent changes in the Fed's portfolio have been as follows:

	Millions of Dollars Securities Added	
Week Ended	*1-to-5 Years*	*5-to-10 Years*
February 1	$ 7	$ 6
February 22	77	4
March 8	202	35

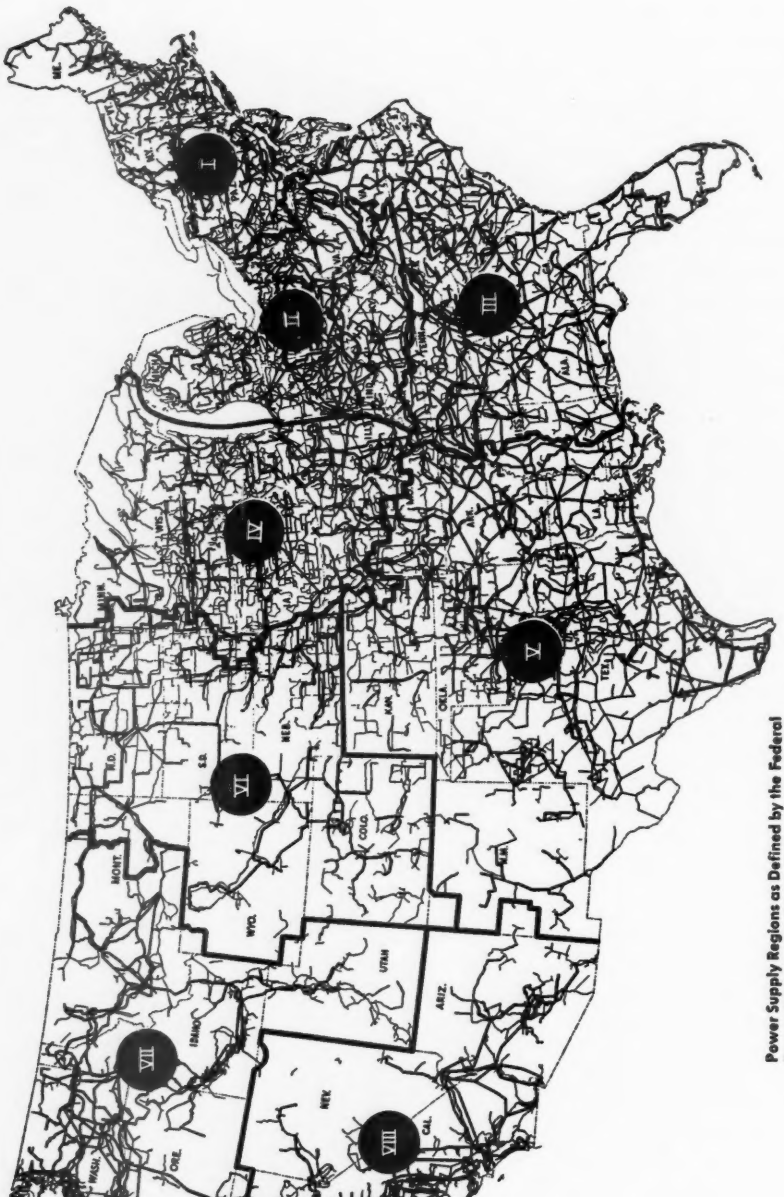
System holdings of government securities maturing in over ten years make up only 1 per cent of the total portfolio of some $27 billion, and thus far there have been no additions in this class of maturity.

The recent rise in short-term Treasury rates was followed by increases in rates on acceptances, commercial paper, etc. (although currently rates seem to be easing again). A number of large commercial banks have agreed to return to a policy of paying interest as time deposits of big customers.



Market Yields on U.S. Government Securities
Monthly Averages

Source, First National City Bank "Monthly Letter"



Power Supply Regions as Defined by the Federal Power Commission, Showing Principal Interconnected Electric Transmission Lines.

Source, EEI Electric Power Survey, October, 1960

DURING the Eisenhower administration, as *Business Week* points out, the Fed had the primary duty of stabilizing the economy and checking the swings of the business cycle, and in so doing it did not have to conform to Treasury policies or needs as it did in the Truman régime. The new administration would still retain this control but would broaden the operation so as to include the government's taxing, spending, and borrowing operations, thus requiring greater coordination of policies by various government agencies, including the Treasury Department.

President Kennedy has pointed out that short-term capital made up over half of the $3.8 billion deficit in the balance of payments last year. He expressed confidence that much of this short-term money would return to this country, and already there are indications that some of it may be flowing back via the stock market.

However, some international financiers think it will take more than a change in money rates to bring any substantial amount of gold back to this country. As *Business Week* puts it, it may take a "full-fledged resurgence of confidence to bring scare money back into dollars."

IN its annual report released early in March, the New York Federal Reserve Bank (which is naturally in sympathy with the new system policy) indicated that there might be less need in the coming years for sharp swings in interest rates, in order to tame the business cycle.

Greater reliance might well be placed on other devices, such as rapid government spending and possible tax cuts, while in boom times budgetary surpluses should be built up. (Unfortunately, the latter policy has never worked very well because of the pressure for tax cuts when the federal economy is prosperous.)

The New York Bank's report stated:

> Traditional monetary policy as an antirecession weapon might be more closely circumscribed in the years ahead and might have to be supplemented by a more flexible and imaginative use of fiscal policy and possibly by more subtle and more varied use of debt management and monetary control devices.

ACCORDING to Dow-Jones, the Federal Reserve System at Washington does not consider its entry into the longer-term market as a temporary measure, but neither does it contemplate any "massive intervention" in the longer-term issues.

In answer to critics who have asserted that the Fed would have future trouble in unloading its new holdings of longer-term bonds without unduly depressing bond prices, it was indicated that its policy might very well be to retain newly acquired bonds in the portfolio at least until they have only a short time to maturity.

Utility companies should benefit moderately by the current dip in long-term interest rates, facilitating the marketing of new issues, but on the other hand they may have to pay more for short-term bank loans. Some of the high-coupon issues put out in 1959 can now be refinanced at lower rates—except where the five-year nonrefundable provision was used to appeal to institutional buyers. Southern Bell Telephone expects to refinance soon its $70 million debenture 5½s, which were sold on a 5.42 per cent basis in October, 1959—the highest rate in the company's history.

The Proposed Federal Transmission Grid in the West

PRESIDENT Kennedy's power program calls for "national co-operative pooling of electric power, both public and private, and to enlarge such pooling as now exists."

Evidently the industry has anticipated some such move, as the Edison Electric Institute is reported at work on a survey of the extent and effectiveness of interconnections and the pooling of power resources, which may be ready by June.

The New York Times of March 12th summarizes the talk of President E. M. Naughton of Utah Power & Light before the annual Ebasco Executive Conference last December.

Naughton traced the beginnings of pooling operations to meet unexpected power needs during World War II, and described postwar progress, but concluded that this has been inadequate.

"While government agencies are operating as members of various pools without too much difficulty," he stated, "it should be realized that they are not the dominating force within the pool and must co-ordinate with other members of the pool. On the other hand, once federal, Rural Electrification Administration, and municipal electric capacities are integrated, they would truly become a dominating force in so far as responsibility and, to a large degree, actual control of this nation's electric supply is concerned."

MR. NAUGHTON pointed out that some utilities have been reluctant to transfer power over state lines because this might subject them to the jurisdiction of the Federal Power Commission, and stated:

> I can understand this viewpoint and am in sympathy with it. But there is little chance that changes can be made in FPC regulations. Utah has been an

ELECTRIC AND GAS UTILITY SECURITY OFFERINGS IN FEBRUARY

Date	*Amount (Mill.)*	*Description*	*Price To Public*	*Underwriting Spread*	*Offering Yield*	*Aver. Yield For Securities Of Similar Quality*	*Moody Rating*	*Success Of Offering*
		Bonds and Debentures						
2/8	$45	Consolidated Natural Gas Deb. (s.f.) 4⅜s 1986	99.92	.83C	4.33%	4.31%	Aaa	c
2/8	3	Lake Superior Dist. Power 1st (s.f.) 4⅜s 1991	100.40	.83C	4.60	4.60	A	c
2/16	15	Puget Sound P. & L. 1st 4⅜s 1991	99.59	.78N	4.65	4.60	A	a
2/16	8	West Texas Utilities 1st 4⅜s 1991	102.55	.74C	4.47	4.60	A	c
		Common Stock—Offered to Stockholders					*Earn.-Price Ratio*	
2/15	11	Puget Sound P. & L.	33.75	.25N	4.62	—	6.25%	—
		Common Stock—Offered to Public						
2/9	11	Texas Gas Transmission	37.25	1.60N	4.03	—	6.94	a
2/16	38	The Southern Company	50.00	.69C	3.00	—	4.07	d

C—Competitive. N—Negotiated. a—It is reported that the issue was well received. c—It is reported that the issue sold somewhat slowly. d—It is reported that the issue sold slowly.
Source, Irving Trust Company

interstate company ever since the Federal Power Act was passed, and I want to assure you that any troubles we have experienced thereby are minor compared with those you would experience if the federal government should set up a giant grid, force you to participate, and thereby bring you under FPC jurisdiction anyhow. To bring about integration is going to be expensive, but let us charge it up to our faith in the future of the industry.

THE chart on page 470, reproduced from the latest "Electric Power Survey" published by the EEI, indicates the present extent of interconnection, though data on actual pooling power seem rather fragmentary. The 1960 "Statistical Bulletin" of the EEI (page 32) indicates that major privately owned electric utilities sold about 13 per cent of their output to other electric utility companies, which may be a rough measure of pooling; however, a combined figure for the entire electric utility industry, including public power, would be of interest. The Federal Power Commission in its monthly bulletins on "Electric Utility System Loads" gives data commingled for both private and public utilities under the heading "System and Power Supply Area" but it would take careful study to work out any pooling data from these reports.

APPARENTLY the administration has been sensitive to the fact that some of its big public power projects are operating in the red, and feels that instead of raising rates (which might be somewhat of a "loss of face") savings can be effected by the proposed power grid. The principal object would be to diversify loads and also the supply of hydro—thus improving the marketing of available hydro power. (It might also pave the way for some future steam plants to further "firm up" seasonal hydro supply.)

The grid idea is not new: Paul Raver, former Bonneville Administrator, had some big ideas years ago which did not develop, probably because of the impracticability of moving power economically over long distances. The same difficulties still exist, though new experiments with high-voltage transmission lines may make the project more feasible now than formerly.

FOR the present the grid idea seems to be confined to the area west of the Mississippi. Bonneville is to be connected up with the Central Valley system in California and the Colorado river power

CURRENT YIELD YARDSTICKS
(Standard & Poor's Indexes)

	Mar. 8, 1961	*1960-61 Range*		*1959 Range*	
		High	*Low*	*High*	*Low*
Utility Bonds—Al+	4.33%	4.72%	4.32%	4.71%	4.23%
—Al	4.39	4.73	4.36	4.76	4.24
—A	4.57	4.86	4.49	4.94	4.44
—Bl+	4.48	5.16	4.48	5.19	4.71
Preferred Stocks*	4.67	4.88	4.57	4.90	4.45
Utility Common Stocks	3.42	4.11	3.39	4.13	3.71
Yield Spread: Al+ Bonds Exceeded Common Stocks	0.91	0.61	0.93	0.58	0.52

*Twelve industrial and two utility issues (high-grade).

project in Arizona, according to a recent article in *Barron's* ("Leaping Socialism," in the March 13th issue). The Missouri river basin plants would then be included, with a northern loop back to Bonneville through Montana; and later a tie-in would be made with the Southwestern Power Administration system and TVA. The first step (assuming Congress' co-operation) would probably be a $38 million line from Fidels, Oregon, to Los Angeles, for which the government already has the right of way.

THE Northwest Power Pool is an outstanding example of co-operation between public and private power agencies. Power from the big government dams is commingled with the hydro power produced by private utilities and distributed to aluminum companies, municipalities, PUD's, and private utilities.

FINANCIAL DATA ON GAS UTILITY STOCKS

Approx. Revenues (Mill.)			3/7/61 Price About	Dividend Rate	Approx. Yield	Recent Share Earns.	Per Cent Increase In Share Earn. Recent	5-yr. Avg.	Price-Earn. Ratio	Div. Pay-out	Approx. Common Stock Equity
		Pipeline and Integrated Companies									
$ 6	O	Ala.-Tenn. Nat. Gas	26	$1.20	4.6%	$1.55Se	5%	8%	16.8	77%	43%
240	S	American Nat. Gas	87	3.00	3.4	4.92De	7	7	17.7	61	38
111	A	Ark.-Louisiana Gas	41	1.00	2.4	1.65Se	—	50	24.8	64	40
62	O	Colo. Interstate Gas	47	1.25r	2.7	1.96De	15	11	24.0	64	26
517	S	Columbia Gas System ...	24	1.10	4.6	1.53De	D2	8	15.7	72	40
23	O	Commonwealth N. G. ...	27	1.10	4.1	1.75De	7	6	15.4	63	55
324	S	Consol. Nat. Gas	53	2.30	4.3	3.19De	D5	3	16.6	72	58
452	S	El Paso Nat. Gas	28	1.30g	4.6	1.38De'59	3	11	20.3	94	21
55	S	Equitable Gas	39	1.85	4.7	2.38Se	D9	11	16.4	78	46
47	O	Houston N. G.	33	.80	2.4	1.67Ja	21	20	19.1	48	21
24	O	Kansas Nebr. Nat. Gas ..	30	1.19	4.0	1.90De	9	6	15.8	63	36
131	S	Lone Star Gas	24	1.00	4.2	1.28De	7	2	18.8	78	52
88	S	Miss. River Fuel	38	1.60	4.2	2.19De'59	12	5	17.4	73	50
31	S	Montana Dakota Util. ..	36	1.20	3.3	1.97Se	15	5	18.3	61	30
29	S	Mountain Fuel Supply ..	34	1.40	4.1	1.84Se	8	4	18.5	76	53
94	S	Nat. Fuel Gas	28	1.20	4.3	1.86De	7	6	15.6	65	52
188	S	Northern Nat. Gas	34	1.40	4.1	2.20De	15	5	15.5	64	33
43	S	Oklahoma Nat. Gas	33	1.40	4.2	2.04De	5	5	16.2	69	34
140	S	Panhandle East. P. L. ..	51	1.80	3.5	3.05De	D9	4	16.7	59	43
239	S	Peoples G. L. & Coke ..	73	2.60	3.6	4.28De	7	9	17.1	61	42
33	O	Pioneer Nat. Gas	31	.88	2.6	1.25De	D10	9	24.8	70	41
122	S	Southern Nat. Gas	43	2.00	4.7	2.20	20	—	19.5	91	36
46	O	Southern Union Gas	29	1.12	3.8	1.50De'59	7	3	19.3	75	29
555	S	Tenn. Gas Trans.	24	1.10	4.6	1.35De	5	12	17.8	81	28
296	O	Texas East. Trans.	35	1.40	4.0	2.52Se	28	4	13.9	56	21
116	S	Texas Gas Trans.	38	1.50	3.9	2.58Se	14	4	14.7	58	21
147	O	Transcont. Gas. P. L. ..	24	1.00u	4.2	1.25Se	7	10	19.2	80	20
354	S	United Gas Corp.	36	1.50	4.2	2.09Se	D12	2	17.2	72	40
		Averages			3.9%		7%	8%	18.0	70%	
		Retail Distributors									
$ 40	S	Alabama Gas	34	$1.60	4.7%	$2.15De	16%	—	15.8	74%	33%
68	O	Atlanta Gas Light	47	1.80	3.8	2.91De	9	9%	16.2	62	44
3	O	Berkshire Gas	19	1.00	5.3	1.22N	5	5	15.6	82	42
7	A	Bridgeport Gas	33	1.68	5.1	2.11Se	D5	5	15.6	80	48
6	O	Brockton-Taunton Gas ..	23	1.00	4.3	1.22De'59	D6	14	18.9	82	41
89	S	Brooklyn Union Gas	35	1.20	3.4	*1.75De	* 5	*6	*20.0	70	42

Approx. Revenues (Mill.)		(Continued)	3/7/61 Price About	Dividend Rate	Approx. Yield	Recent Share Earns.	Per Cent Increase In Share Earn. Recent	5-yr. Avg.	Price-Earn. Ratio	Div. Payout	Approx. Common Stock Equity
52	O	Central Elec. & Gas	32	1.20c	3.8	1.95Se	14	8	16.4	62	17
14	O	Cent. Indiana Gas	17	.80	4.7	.82N	5	—	20.7	98	58
7	O	Chattanooga Gas	6	.30	5.0	.48N	84	5	12.5	63	54
16	O	Elizabethtown Gas	54	1.80	3.3	3.49Oc	30	11	15.5	52	79
77	O	Gas Service	42	1.72	4.1	2.51Ja	D1	8	16.7	68	35
9	O	Hartford Gas	54	2.40	4.4	3.12De	20	8	17.3	77	53
3	O	Haverhill Gas	29	1.60	5.5	1.86De	D11	7	17.6	86	55
21	O	Indiana Gas & Water ...	27	1.00	3.7	1.52De	—	5	16.8	62	46
62	S	Laclede Gas	28	1.05	3.8	1.60De	27	5	17.5	66	38
9	A	Louisiana Gas Serv.	20	.68x	3.4	1.18De	D2	—	16.9	58	48
8	O	Mich. Gas Utils.	16	.60	3.8	.96De	19	8	16.7	63	32
53	O	Minneapolis Gas	37	1.60	4.3	2.15Se	10	—	17.2	74	43
18	O	Miss. Valley Gas	26	1.20	4.6	1.93Se	D3	—	13.5	62	37
6	O	Mobile Gas Service	27	1.10	4.1	1.39Se	11	4	19.4	79	38
8	O	New Haven Gas	43	2.00	4.7	3.24De'59	5	5	13.3	62	68
18	O	New Jersey Nat. Gas ...	30	.90f	5.0f	*1.56De	*14	*11	*19.9	58	34
130	O	Nor. Illinois Gas	44	1.20	2.7	2.04De	13	11	21.6	59	42
11	O	North Penn Gas	13	.65	5.0	1.18Je	28	7	11.0	55	65
23	O	Northwest Nat. Gas	28	.84	3.0	*1.57De	*20	* 7	*17.8	53	37
307	S	Pacific Lighting	57	2.40	4.2	3.43De	31	2	16.6	70	41
12	O	Piedmont Nat. Gas	14	.50	3.6	.83Se	14	—	16.9	61	27
2	O	Portland Gas Lt.	15	.75	5.0	1.93De'59	D12	13	7.8	39	27
12	A	Providence Gas	11	.56	5.1	.63De	D3	2	17.5	89	48
4	A	Rio Grande Valley Gas ..	5	.16	3.0	.30Je	D8	7	16.7	53	46
5	O	So. Atlantic Gas	17	.80	4.7	.87De'59	D28	—	19.5	92	30
16	S	So. Jersey Gas	35	1.10	3.1	1.45De	11	13	24.1	76	51
36	S	United Gas Impr.	61	2.40	3.9	3.42De	1	10	17.8	70	49
71	S	Wash. Gas Light	67	2.40	3.6	3.79De	8	5	17.7	63	38
18	O	Wash. Nat. Gas	29	1.00	3.4	1.45De	4	20	20.0	69	38
13	O	Western Ky. Gas	21	.80x	3.8	1.54De	9	11	13.6	52	36
		Averages			4.1%		9%	6%	16.9	68%	

FINANCIAL DATA ON TELEPHONE, WATER, AND TRANSIT STOCKS

Approx. Revenues (Mill.)			3/7/61 Price About	Dividend Rate	Approx. Yield	Recent Share Earns.	Per Cent Increase In Share Earn. Recent	5-yr. Avg.	Price-Earn. Ratio	Div. Payout	Approx. Common Stock Equity
		Communications									
$7,920	S	American T. & T. (Cons.)	114	$3.60h	3.2%	†$5.53De	6%	5%	†20.6	65%	64%
405	A	Bell Tel. of Canada	49	2.20	4.5	2.51De	5	—	19.5	88	58
54	O	Cin. & Sub. Bell Tel. ...	110	4.50	4.1	5.89De	6	2	18.7	76	77
288	A	Mountain States T. & T.	33	.90	2.7	1.36N	10	7	24.3	66	59
405	A	New Eng. T. & T.	51	1.72	3.4	2.37De	7	7	21.5	73	56
1,135	S	Pacific T. & T.	38	1.14	3.0	†1.43De	D3	3	†26.6	80	61
128	O	So. New Eng. Tel.	50	2.20	4.4	2.51De'59	D3	5	20.0	88	65
		Averages			3.6%		4%	4%	21.6	76%	
		Independents									
$ 7	O	Anglo-Canadian Tel. ...	48	$1.20	2.5%	$3.39De	D1%	21%	14.2	35%	44%
45	O	British Col. Tel.	49	2.20	4.5	2.84Se	8	—	17.3	77	28
4	O	Calif. Inter. Tel.	17	.70	4.1	.85De	12	NC	20.0	82	24
28	O	Calif. Water & Tel.	33	1.36	4.1	1.81De	D8	5	18.2	75	44
22	O	Central Tel.	27	.88w	3.3	1.59Se	3	—	17.0	55	33
5	O	Commonwealth Tel.	24	.90	3.8	1.47De'59	9	8	16.4	61	35
5	O	Florida Tel.	29	1.00	3.4	1.32De'59	32	4	22.0	76	40
1,081	S	General Tel. & Elec. ...	27	.76	2.8	†1.04De	D8	10	†26.0	73	43
25	O	Hawaiian Telephone	32	1.00	3.1	†1.53Ja	20	1	†20.9	65	42
8	O	Inter-Mountain Tel.	19	.80	4.2	.77De'59	D15	—	24.7	104	53
9	A	Puerto Rico Tel.	84	1.80	2.1	(y)	D1	—	—	93	42

Approx. Revenues (Mill.)		(Continued)	3/7/61 Price About	Dividend Rate	Approx. Yield	Recent Share Earns.	Per Cent Increase In Share Earn. Recent	5-yr. Avg.	Price-Earn. Ratio	Div. Payout	Approx. Common Stock Equity
28	S	Rochester Tel.	27	1.00	3.7	1.64De	6	1	16.5	61	31
12	O	Southwestern St. Tel.	30	1.20	4.0	1.74De	20	3	17.2	69	42
13	O	Tel. Service of Ohio	33	.36z	1.1	1.33De	21	8	25.2	27	32
42	O	United Utilities	52	1.45	2.8	2.42De	16	14	21.5	60	39
19	O	West Coast Tel.	31	1.20	3.9	1.97De	5	5	15.7	61	37
277	S	Western Union	46	1.40	3.0	1.80De	D31	—	25.6	78	82
		Averages			3.3%		7%	6%	20.0	68%	
		Water Companies									
		Holding Companies									
$ 48	S	American Water Works	22	$1.00	4.5%	$1.51De	4%	7%	14.6	66%	19%
		Operating Companies									
$ 5	O	Bridgeport Hydraulic	42	$1.70	4.0%	$1.86De'59	6%	5%	22.6	91%	55%
17	O	Calif. Water Service	27	1.20	4.4	1.48Ja	D15	2	18.2	81	31
5	O	Elizabethtown Water	27	1.20	4.4	2.20De'59	17	—	12.3	55	60
12	S	Hackensack Water	61	2.40	3.9	*4.36De'59	*32	* 6	*14.0	55	35
10	O	Indianapolis Water	29	1.20s	4.1	1.70Se	7	5	17.1	70	34
6	O	Jamaica Water	45	2.20	4.9	3.03De	D7	1	14.9	73	29
5	O	New Haven Water	68	3.40	5.0	2.91De'59	D12	—	23.3	117	55
2	O	Ohio Water Service	31	1.50b	4.8	1.65Se	D6	—	19.4	91	33
11	O	Penn. Gas & Water	32	1.40	4.4	1.82Se	12	6	17.6	77	29
11	O	Phila. & Sub. Water	64	1.80v	2.8	3.24Se	7	5	19.8	56	29
3	O	Plainfield Un. Water	23	1.10	4.8	2.31De'59	44	12	10.0	43	66
6	O	San Jose Water	42	1.30	3.1	2.20De	D2	5	19.1	59	38
7	O	South. Calif. Water	28	1.10	3.9	1.51De	10	8	18.6	73	36
4	O	Southern Gas & Water	27	.80d	7.0d	1.72My	24	5	15.7	47	19
		Averages			4.4%		12%	4%	17.3	69%	
		Transit Companies									
$ 21	O	Baltimore Transit	9	—	—	$1.02De'59	72%	11%	8.8	—	45%
12	O	Cincinnati Transit	8	$ .30	3.8%	.91De'59	193	—	8.8	33%	56
66	S	Fifth Ave. Lines	17	1.00t	5.9	.23De'59	—	—	—	—	65
322	S	Greyhound Corp.	21	1.00a	4.8	1.64De	—	7	12.8	61	62
26	S	Nat. City Lines	25	2.00	8.0	2.22De'59	33	—	11.3	90	92
13	O	Niagara Frontier Trans.	17	.60	3.5	.76De'59	—	—	22.4	79	67
20	A	Pittsburgh Rys.	14	.25	1.8	—	—	—	—	—	90
6	O	Rochester Transit	7	.40	5.7	1.08De'59	26	—	6.5	37	100
21	O	St. Louis P. S.	10	.80	8.0	.77De'59	13	—	13.0	104	93
13	S	Twin City R. T.	11	1.00	9.1	1.26De	—	—	8.7	87	65
20	O	United Transit	6	.70	11.7	.89De'59	18	2	6.7	79	54
		Averages			6.2%		32%	2%	11.0	71%	

A—American Stock Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. *Deferred taxes resulting from liberalized depreciation are not normalized. If normalized, the price-earnings ratio would be higher, and the rate of increase in share earnings would be smaller. †On average shares. D—Decrease. a—Also 10 per cent stock dividend October 24, 1960. b—Also 2 per cent stock dividend September 30, 1960. c—Also one-half per cent stock dividend October 31, 1960. d—Also 1 per cent stock dividend quarterly (included in yield). e—Also 3 per cent stock dividend January 7, 1960. f—Regular annual 2 per cent stock dividend included in yield. g—Stock split 5 for 4 to stockholders of record October 11, 1960. h—Dividend rate of $3.60 per annum to be established beginning with July 10, 1961, payment. i—Also 10 per cent stock dividend January 15, 1960. q—Indicated new rate after 8-for-1 split July 15, 1960. r—Also 40 per cent stock dividend June 13, 1960. s—One share of 111 Realty Corp. common for each 10 shares held, paid March 31, 1960. t—Paid to date. u—Twenty per cent stock dividend paid January 15, 1960. v—Also 3 per cent stock dividend payable January 6, 1961 (similar dividend was paid January 7, 1960). w—Also 1 per cent stock dividend payable December 31, 1960. x—Also 12½ per cent stock dividend payable October 7, 1960. y—Nineteen hundred and sixty earnings estimated at $3.50 or more. z—Plus 3 per cent stock dividend December 31, 1960. NC—Not comparable.

What Others Think

Investor-owned Nuclear Power Program

In early March William J. Clapp testified on behalf of the Edison Electric Institute before the congressional Joint Committee on Atomic Energy. Mr. Clapp is president of the Florida Power Corporation as well as being chairman of the Edison Electric Institute's committee on atomic power.

At the outset of his remarks to the committee, Mr. Clapp noted that although the goal of achieving economically competitive nuclear power has not as yet been attained, recent developments indicate that the broad and diversified programs being conducted by investor-owned electric utility companies represent a sound approach to the problem. As proof of this, he stated that during the past year the world's largest nuclear power reactor has been undergoing low-power testing. In addition, three nuclear power plants in which electric companies are participants are in operation, making a total of five operating reactors.

There are a number of projects now under construction. Two plants are under design, one is now at the stage of contract negotiations, and two are in the planning stage. Mr. Clapp stressed that the reactors under contract negotiations or in the planning stage are of large size and are being considered in competition with conventional units of equivalent size. This, he believes, is another demonstration that progress is being made in the development of nuclear power.

Mr. Clapp indicated that during the past year the 180-megawatt Dresden plant had operated at various power levels, demonstrating ease of operation and rapid response to system load requirements. In general, he stated that operating characteristics have exceeded expectations.

Regarding this project, and the difficulties which have been encountered, he stated:

> Recently a metallurgical problem of a nonnuclear nature developed involving part of the control rod mechanism. The plant has been shut down while corrective measures are undertaken. However, problems of this type are to be expected and can, in fact, be a source of additional knowledge in our determination to achieve economically competitive nuclear power. The utility industry has experienced problems with new advanced designs of major conventional equipment in the past and as recently as last year, but has benefited from them through the experience gained in searching for and applying corrective measures. We are confident

that such will be the case with our nuclear power plant experiences.

The 136-megawatt Yankee project is also providing valuable information to the industry which will assist in future design and construction of competitive nuclear power plants. Test operations in this plant are slightly ahead of schedule, Mr. Clapp indicated, and on the basis of existing information it is expected that the plant's performance will somewhat exceed specifications. Foreign projects involving the use of pressurized water reactors have also gained valuable information from the Yankee project.

THE Shippingport facility, Mr. Clapp noted, has provided valuable information on the technical problems of operation and maintenance since this plant has marked its third anniversary. This particular project is operated with the dual purpose of an operating power plant and a test facility. Therefore, unit power costs are not meaningful in an attempted comparison of the Shippingport plant with a conventional station. However, experience gained here should be helpful in making future cost estimates. Another valuable contribution of the Shippingport facility has been the training of supervisors and technical personnel for other nuclear power plants, both here in the United States and in foreign countries.

During the past year, seven major electric utilities in New York state announced plans to conduct a twofold development program which, Mr. Clapp stated, shows promise of achieving overall production costs which will be competitive with fossil fuel plants in upper New York state. The seven utilities participating in this program will operate under the corporation name of Empire State Atomic Development Associates, Inc., and indications are that the sponsor companies will finance, construct, and operate a generating station in the neighborhood of 300,000 to 500,000 kilowatts.

Concerning an exact evaluation of progress, Mr. Clapp stated:

> The operating projects sponsored by the investor-owned companies have been instrumental in proving the technical feasibility of operating large power reactors on a utility system. Furthermore, we have gained construction and design experience on utility-size nuclear power plants which is so essential to the ultimate goal of economically competitive nuclear power. We are now in a position to gain additional experience in the operation of a nuclear power reactor in meeting the daily load requirements, and also in such important areas as maintenance, fuel loading, and waste disposal. Many utilities have their engineers working directly on utility group-sponsored projects. These engineers have performed duties in decision-making positions and their acquired experience will assist their companies in future nuclear power projects. This continual accumulation of knowledge in all phases of nuclear power development will be indispensable in designing and constructing future nuclear power plants and in training operators for these plants.

MR. CLAPP believes that the experience, to date, confirms the belief that commercial-type power reactors should be built, owned, and operated by utility systems. He stressed that the utility industry continue research activities and that this process should assure an orderly development with actual construction consistent with research achievements. It is the belief of Mr. Clapp's group that large-scale re-

"MADAM SAYS THAT 60-WATT ELECTRIC BULB IS MORE DELICATE AND HANDIER THAN OLD-FASHIONED CANDLES."

actors should generally only be installed when there is reasonable assurance that a sponsoring utility system can produce electric power with the proposed plant at rates substantially competitive with the power generated from similar-sized conventional units in the same area.

The government's rôle in nuclear power activities, Mr. Clapp believes, should be limited to the fostering of research and development and the investigation of promising reactor concepts. He stated that, in fulfilling this rôle, government should use the services of the electric utility industry to the maximum extent possible.

Mr. Clapp recommended that the Atomic Energy Act of 1954 should be amended so that it no longer discriminates in the disposal of electric energy generated at government-owned experimental nuclear power facilities. He also stated that the clause which provides for preference, in consideration of license applications by public or co-operative bodies, should be deleted.

An interesting recommendation of Mr. Clapp's was that the Price-Anderson indemnity legislation should be clarified to specifically indicate coverage in the event of an incident in the United States which might cause damage outside of this country. This certainly points out the international nature of working with atomic energy. In relation to the general scope of our atomic power program, Mr. Clapp stated:

As far as we know, no other nation has a nuclear power developmental program as comprehensive as that of the United States. We have utility-size power reactors in operation to give us necessary operating and maintenance experience and at the same time a broad diversified developmental program stressing research and prototype reactor construction. Time has indicated that such an approach is sound and that improvement in technology and not kilowatts is the essential ingredient for the ultimate success of our nation's program.

Responding to a question by Representative Holifield (Democrat, California), who is acting as the Joint Committee chairman, Mr. Clapp stated that none of the power reactors in operation at the present time meets the test of "substantial competitiveness" but that this goal is being approached.

EARLIER in the hearings, Atomic Energy Commissioner Robert E. Wilson told the committee that 1960 may be regarded as the year in which the utility industry was giving serious consideration to nuclear reactors as competitors of fossil-fueled plants in certain areas "in the reasonably near future." He also noted that in 1960, the industry came to realize the realities of cost, safety, and public acceptance—it was, in his words, the "year the national nuclear power effort grew up."

He attributed delays in the civilian power reactor projects to the locating of reactors and related safety problems, and the reluctance of most utilities to take on the financial burden of the present program. It is the commission's view that health and safety must take precedence over the desire to push ahead with a vigorous reactor development program if the two objectives should ever come in conflict. He acknowledged that the public utilities "deserve a lot of credit for the chances they have taken already."

ANOTHER witness before the Joint Committee was Angus McDonald of the National Farmers Union. He stated that he felt the commission's insistence that private industry should take over the atomic energy field was erroneous. He noted that his group had given its support to the Gore-Holifield Bill which proposed a large program of federal reactor construction. He also claimed that the preference clause in the Atomic Energy Act was, in part, due to the activities of his group.

The American Public Power Association was represented by James L. Grahl, who recommended that the Atomic Energy Commission be "explicitly" assigned the primary responsibility for developing technology or power reactor concepts to the point that private industry can take over. This, he said, might be done by an amendment to the Atomic Energy Act, making the development of the technology of low-cost nuclear power the statutory responsibility of the commission.

The National Rural Electric Co-operative Association, in a statement submitted for the record, reaffirmed its previous position that a federal program for construction of demonstration, prototype, and commercial-size nuclear power stations is required.

It is interesting to note that following the suggestions presented to the committee by Mr. Clapp, Senator Anderson (Democrat, New Mexico) dropped a bill in the hopper which would extend government indemnity coverage of the act to "any activity of the commission involving the deliberate underground deto-

nation of a nuclear explosive device." This bill (S 1144) also offers clarified amendments relating to claims against the $500 million indemnity fund established in 1957 by an amendment to the act. Senator Anderson's bill, however, does not include Mr. Clapp's recommendation that provision should be made for covering damages arising outside of the United States as a result of a nuclear incident occurring within this country.

ANOTHER witness to appear before the committee was Walker L. Cisler, president of the Power Reactor Development Company, which is engaged in the design, construction, and operation of the reactor portion of the Enrico Fermi atomic power plant. He indicated that significant progress has been made by his group in the past year in the development of information respecting fuel and the nonnuclear test operation of the reactor components and systems. The company believes that considerable information has been developed which will prove of value to the peaceful application of atomic energy.

Charles R. Landrigan, executive vice president of The Detroit Edison Company, presented a statement concerning the nonnuclear facilities of the Enrico Fermi atomic power plant. He indicated that turbine generator plant testings, including the many routine operating tests required prior to synchronizing a turbine generator with the electric system, were completed in 1960. Steam to operate this turbine generator was supplied by temporary oil-fired boilers. Mr. Landrigan indicated that it was gratifying to The Detroit Edison Company to have the broad public interest in atomic energy remain high.

AN interesting side light to these hearings is the fact that the Atomic Energy Commission has announced that the proposals from the city of Jamestown, New York, and the Dairyland Power Cooperative of La Crosse, Wisconsin, for a 22,000-kilowatt pressurized water nuclear power plant were unacceptable. The AEC indicated that initial sites offered did not satisfy safety requirements and, even though alternate sites were offered which were adequate, they "introduced adverse changes in the initial proposals and greatly increased the estimated costs of the project to the government." For this reason the AEC decided to terminate the project. Jamestown and Dairyland had responded to the 1959 invitation of the AEC to undertake such a program.

Under the terms of the Atomic Energy Act of 1954, the Joint Committee is required to conduct hearings of this type on the development, growth, and state of the atomic energy industry. Such hearings enable the entire industry, as well as government officials, to determine what precise point we have reached in the development of electric power through nuclear sources.

The Engineer's National Responsibility

WILLIAM V. KAHLER, president of Illinois Bell Telephone Company, has urged that the leading professional engineering societies should volunteer counsel to President Kennedy and Congress in technical assistance programs. He also suggested that retired engineers might be tapped for leadership in technical phases of the President's Peace Corps and other foreign aid operations.

The telephone company executive spoke before 600 persons at a dinner during which he was presented the 1961 Washington Award—one of the nation's outstanding honors for engineers. The award is conferred upon an engineer for accomplishments which pre-eminently promote the happiness, comfort, and well-being of humanity.

Mr. Kahler spoke on "Plowing a Straight Furrow," which, he said, meant striving to meet the highest possible standards of excellence.

Kahler suggested that the five engineering societies form a joint committee to volunteer guidance and counsel for the administration and Congress in the selection of the best methods of rendering technical assistance abroad. He pointed out that such a committee could bring together a wide range of engineering wisdom and experience.

He stated that the international field is fertile ground into which professional engineering societies might well sink their plowshares, and with their skills open up new areas in which freedom and respect for human dignity will flourish. Kahler pointed out that Presidents Eisenhower and Kennedy had often stressed the needs of underdeveloped nations. He also noted that Mr. Kennedy, in his State of the Union Message, specifically included engineers among the people who could be mobilized in a national Peace Corps that would help foreign nations meet their needs for trained personnel.

THE underdeveloped nations, some of them newly born, are ill-equipped to face life in this era of ideological combat, exploding population, and unequal distribution of technology, Kahler observed.

Dollar aid alone will not solve their problems, he stated, and the President has established the Peace Corps on a temporary basis and has asked Congress for legislation to make it permanent. Regarding this plan, Mr. Kahler stated as follows:

> This calls for levelheaded thinking by mature, down-to-earth people—and we, as engineers, can pridefully say that includes us—to insure that technical assistance of any nature will be administered economically. It must be offered and administered in a manner that will not only benefit the recipients, but the participants as well, so that the whole program will reflect credit upon our nation. We can ill afford anything wastefully idealistic at any time, especially now, when our own economy is in need of sound fiscal policy.

TOGETHER with a number of other observers, he questioned the emphasis on youth in the Peace Corps. There is, at the other end of the age spectrum, a great and growing reservoir of talent in engineering and in other fields as well, he said. In this he referred to those who have newly entered retirement. Many are vigorous and eager to keep busy, he said. Their enthusiasm and skill, he believes, could well be tapped to furnish leadership for technical and other phases of a foreign aid program. The elder statesmen of the engineering profession could do much to help make the Peace Corps a good-will army of capable technicians, Kahler stated.

Financial Statistics on Electric Companies

"A FINANCIAL RATIO ANALYSIS OF ELECTRIC POWER COMPANIES," by Professor Franklin H. Cook of the College of Business Administration of Pennsylvania State University, contains ratios for the three types of electric power companies: purchasing, steam, and hydro, and for each of their three subdivisions—small, medium, and large. Medians are ascertained for each type and each subdivision of the types, or a total of twelve medians for each year from 1939 to 1957, inclusive. The ratios describe the capital structure as a percentage of total assets; denote the percentage of operating revenue paid out in interest and dividends; show times bond interest earned; and indicate the pay-out ratio as a percentage of earnings available for common stock. Some of this material has previously appeared in magazine article form in PUBLIC UTILITIES FORTNIGHTLY.

This bulletin is the second in a series of five projected bulletins on the electric power industry. The first, *"Significant Ratios in the Electric Power Industry,"* was published in 1958. It is kept up to date with annual supplements. *"A Financial Ratio Analysis of Electric Power Companies"* is the second. The third, *"Expense Patterns—Their Analysis for Electric Power Companies";* the fourth, *"A Ratio Analysis of Plant Investment and Utilization among Electric Power Companies";* and the fifth, *"Revenue and Consumption Characteristics of Electric Power Companies,"* are in the process of publication. The entire series has over one hundred and ten ratios based upon data supplied by the Federal Power Commission from 1939 to the present. Every company in the United States securing all of its operating revenue solely from the sale of electric energy is included.

THIS bulletin consists of two parts: The first portion comprises text material, tables, and graphs representing medians for 12 different classifications; the second, an appendix, incorporates the 13 individual ratios from 1939 through 1957 for every electric power company that meets the qualifications of the study.

Four aids are provided for management of particular power companies:

1. A comparison can be made between types of companies: purchasing, steam, and hydro.

2. Differences relative to size within a group are observable; for example, the small steam company may be contrasted with the large steam concern.

3. By use of the appendix, a company can note its own individual performance against the standard for its size and type of company; for example, a small purchasing electric power concern would compare its position with the norm for the small purchasing company on any one of the 100-odd ratios and percentages.

4. The appendix to each of the five bulletins provides data so that a company can review its past performance from 1939 through 1957. Supplements will be issued for succeeding years as the data become available.

THESE publications are useful to the economist, the financial analyst, and to the management of the operating power companies. The econometric economist who is interested in decision making, the discovery of new principles of capital utilization, and the testing of economic theory can find source material within the tables. The financial analyst for the public utility industry, the insurance com-

pany, the mutual fund, or for any investment concern will use these bulletins as a rich lode of information. And, of course, the management of an electric power company is able to compare the position of its company with the representative standard.

This study was prepared under the supervision of Earl P. Strong, formerly director of the Bureau of Business Research, College of Business Administration, The Pennsylvania State University.

A FINANCIAL RATIO ANALYSIS OF ELECTRIC POWER COMPANIES. By Franklin H. Cook. Bulletin No. 63, Bureau of Business Research, College of Business Administration, The Pennsylvania State University, University Park, Pennsylvania, pp. 166. Price, $25.

Notes on Recent Publications

STATISTICAL GUIDE. The U. S. government is by far the largest publisher of statistical data in the country. Recently a guide has been published which brings some order out of this voluminous output. This volume, *"Guide to U. S. Government Statistics,"* covers over 2,000 items, including the recurring publications, statistical series, and the many important one-time publications of statistical value.

Because of the wide interest in statistical programs and the variety of subjects covered, the guide should be a valuable reference tool. It permits the quick location of statistical data by subject and also provides a comprehensive guide to the contents of the voluminous output of federal statistical information.

GUIDE TO U. S. GOVERNMENT STATISTICS, pp. 402. By John L. Andriot, published by Documents Index, Box 453, Arlington 10, Virginia. Available from the publisher, March 15, 1961. Price, $15.

CUMULATIVE FINANCIAL INDEX. Recently Volume II of *"The Cumulative Financial Index"* was published. This reference work is designed to help those who need to find out who has published an article or item about any security or industry. This particular volume contains data from the period of August 10 to November 8, 1960.

This volume should enable the reader to easily locate materials giving more detail about securities than is available in standard manuals. In addition many companies would find it an easy method of keeping track of what is said about their operations, as well as their competitors.

This indexing service is published weekly with four quarterly cumulative issues. Entries are arranged in convenient alphabetical order under sections entitled "industry surveys" and "securities and companies."

THE CUMULATIVE FINANCIAL INDEX, Volume II, pp. 124. Published by The Financial Index Company, Inc. 1295 Madison avenue, New York 28, New York. Price $95 for the complete weekly and cumulative service.

WORKERS OVER FORTY. There has been much written about the difficulties of procuring employment after reaching forty years of age. The federal government has just issued a pamphlet, entitled "Meet the Over-40 Worker," which takes a look at this problem.

The publication presents the high lights of a number of studies and surveys conducted by the Department of Labor, business organizations, universities, and individual researchers. The key facts extracted from these studies and surveys more accurately reflect the true capabilities of over-40 workers, and the feasibility of employing them without economic penalty to the employer.

Available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., pp. 29. Price, 25 cents.

The March of Events

AEC Orders Survey

THE Atomic Energy Commission early this month ordered an oceanic survey to determine what would happen to radioactive materials released in the seas by military, industrial, or space operations. What it learns will be of help, a spokesman said, in regulating future use of nuclear reactors for such purposes as dredging minerals on the ocean floor or powering pumps for undersea pipelines.

The commission awarded two contracts for studying mixing, diffusion, and circulation of ocean water. The study will start next summer in the Atlantic near Bermuda. Eventually, the AEC said, it hopes to extend the survey to all of the major oceans.

One contract, for $290,000, went to Columbia University's Lamont Geological Observatory. The other, for $200,000, went to the systems engineering division of Pneumo Dynamics Corporation for equipment to be used in the study.

FPC Limits Escalation Clauses

THE Federal Power Commission has limited the use of escalation clauses in the sales contracts of natural gas producers. The commission's action would bar such widespread contract provisions as "favored-nation" and "spiral" escalation clauses.

The commission indicated that in contracts filed after April 3rd escalation clauses would be valid only if they set forth future price increases by specific amounts at definite future dates. Also acceptable are contracts providing specific price changes to reimburse the seller for increases in state production taxes or gathering taxes.

The commission defined escalation clauses meeting these requirements as "definite." It suggested anything else is "indefinite." Indefinite escalation clauses were outlawed on the ground that they produce uncertainty and instability, often have an inflationary effect, and are basically "contrary to the public interest."

The FPC's new policy was handed down in companion documents: a 12-page opinion in an independent producer rate proceeding and a 3½-page rule-making order. The commission denied three increases proposed by Pure Oil Company of Chicago for natural gas sold to El Paso Natural Gas Company, El Paso, Texas. They totaled about $98,000 a year.

Certain contracts between Pure Oil and El Paso contain a favored-nation clause which provides that if El Paso pays a higher price to another natural gas supplier, it will increase its payments to Pure Oil to match this higher price.

Arkansas

REA Releases Power Loan

AFTER more than a decade, the Rural Electrification Administration recently released a $1,558,000 loan to the Arkansas Electric Co-operative Corporation at Fayetteville. The loan will be used to build power-generating and transmitting facilities to meet power needs of seven REA-financed electric distribution co-operatives in Arkansas.

The loan was originally approved on November 25, 1950. But release of the funds was delayed to await settlement of contract negotiations between the power-generating co-op and the Southwestern Power Administration on interchange of power and other matters at the state level.

California

Control of Feather River Opposed

THE Southern California Water Co-ordinating Conference went on record recently as opposed to any proposal which would give the state legislature control over the construction timetable for the $1.75 billion Feather river project. The conference, which is composed of representatives of 100 southland water agencies and organizations, took the action at a meeting in Los Angeles early this month.

The conference's opposition stand followed a discussion of recommendations made by the legislative analyst in a review of the state department of water resources budget for the coming year.

The legislative analyst, it was pointed out, had suggested that the lawmakers might want to consider bringing the department's proposed expenditures for the statewide system under the legislature's jurisdiction. Similar legislative handling of funds provided for the project at the general election last November was strongly advocated by the senate fact-finding committee on water.

Colorado

Utility Rates Attacked

A SUIT charging that gas and electric rates have been "unlawfully and illegally" raised during the past eight years by the Public Service Company of Colorado was filed in Denver district court. The suit, filed by a firm of lawyers, challenged the validity of a 1953 Denver city charter amendment and a 1955 Colorado state constitutional amendment which gave rate-making powers to the state public utilities commission.

If the suit is successful, the Public Service Company would be required to make refunds to Denver customers running into the millions of dollars.

A principal issue in the case is a "franchise contract" awarded Public Service by a vote of Denver residents in 1947. The pact is due to run for twenty years. The contract was made subject to a vote and awarded under provisions of the city charter regulating utility rates. One provision directed that any request for a rate increase had to be presented to the city council, with that body to investigate the matter, then vote on whether to grant it.

The charter also permitted the city council to request lower rates from the Public Service Company, hold hearings, and then decide the issue.

However, under a 1953 amendment to the city charter, rate regulatory powers were transferred to the state legislature. In 1955, utility rate functions were placed in the state public utilities commission through the statewide vote.

Indiana

Utility Bills Passed

ANY prearranged scheme or code to send "free" messages by long-distance telephone would be a criminal offense punishable by a year's imprisonment and a $1,000 fine under terms of a bill given final passage by the state legislature and sent to the governor for signature. The measure is listed as HB 388.

Also given final passage was a bill to require the state highway department to reimburse utilities for relocation of their facilities.

Controversial Bill Killed

A CONTROVERSIAL bill which would permit out-of-state utilities to operate in Indiana subject to provisions of the state public utility commission laws, general corporate law, and the state gross income tax law was killed in a committee of the state house of representatives following earlier approval by the state senate.

Under present law, such foreign utilities are forced to establish holding companies in order to operate in Indiana.

Iowa

Utility Line Rules Approved

THE state highway commission has approved rules under which public and private utility lines will be permitted on primary highway rights of way.

The new rules apply to gas, gasoline, oil, water, telephone, telegraph, electric power, sewer, drainage, and irrigation lines. Under the rules, no poles could be located on shoulders or median strips. Pole-carrying wires could be placed in the edge of the right of way. Underground lines would be prohibited in the shoulders or areas where signs might be posted.

Natural gas lines would be permitted in the right of way for up to one-half a mile to permit pipeline companies to connect mains with a city distribution system.

Natural gas or water lines, but not gasoline or oil lines, could be attached to bridges of more than 200 feet in length, if underground crossings of a stream were not feasible. A fee would be charged.

Kentucky

Co-op Wins Plant Approval

THE state public service commission last month authorized East Kentucky Rural Electric Co-operative Corporation to build a 100,000-kilowatt steam-generating plant near Burnside. In the same order, the commission approved the co-operative's plan to borrow $25 million from the Rural Electrification Administration to finance the project. It said the

co-op could proceed with plans to construct an additional 315.5 miles of transmission facilities.

The order followed prolonged negotiations involving East Kentucky, Kentucky Utilities Company, the REA, and the commission. REA offered the loan last September.

The commission said the order would cause no conflict with present contracts through which the co-operative buys some power from Kentucky Utilities.

Montana

Antidistrict Expansion Bills Shelved

Two measures described by opponents as "relief for private power" were shelved in the state senate. One was designed to stop public utility districts from entering the state. The other would have asked Congress to permit private enterprise to construct and operate a power plant at Yellowtail dam in the southeastern part of the state.

The chairman of the senate judiciary committee said it opposed the so-called anti-PUD bill "because there is no need for it in Montana." He said there is "no immediate prospect of anyone coming from out of state which would be covered by the proposal."

New York

Rate Case Delays Explained

A SPOKESMAN for the state public service commission told the press recently that it had postponed a decision on a proposed Niagara Mohawk Power Corporation rate increase only to give its staff time to finish a report. The spokesman denied reports that the delay had been ordered so that the effect of Niagara Falls power, purchased from the New York State Power Authority, could be assessed.

The commission's decision was to have been handed down on February 26th. It was set back to August 26th.

Representatives of Niagara Falls and Buffalo opposed electric rate increases during hearings conducted last fall.

Oregon

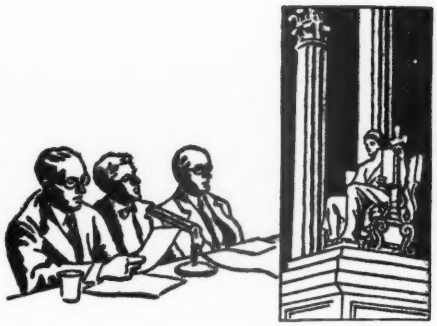
Utility Merger Approved

NEAR unanimous approval of the merger of the California Oregon Power Company into Pacific Power & Light Company was registered by stockholders of the two firms at special meetings held earlier this month.

A. S. Cummins, president of California Oregon Power, announced in Medford, Oregon, that 99.4 per cent of the common and 97.7 per cent of the preferred shares represented at that company's meeting were voted in favor of the merger proposal. Proxies were received from 92.5 per cent of the outstanding shares of common and 94.3 per cent of the preferred stock of the company.

At the Pacific Power & Light stockholders' meeting in Portland, 99.6 per cent of the common shares voted were in favor of the merger and 99.6 per cent of the preferred shares represented were cast in favor of the merger, Paul B. McKee, chairman of the board, reported. Ninety-four point four per cent of the company's outstanding common and 87 per cent preferred were represented.

In addition to the favorable stockholder action, approvals must also be obtained from regulatory authorities.



Progress of Regulation

Trends and Topics

Extension of Billing Period to Effect Economies

IN a period of rising costs, every operating economy which can be achieved tends to ease the downward pressure on the rate of return. In some cases, an extension of the billing period may promise appreciable savings. Generally, however, this means of effecting a desirable economy is not without some disadvantages. Both the utility's and the customer's view of the matter have been considered in several regulatory decisions in recent years.

Managerial Discretion Recognized

The Rhode Island supreme court ruled that the public utility administrator committed prejudicial error in rejecting bimonthly billing proposed by a gas and electric company (25 PUR3d 54). There was substantial evidence to show that such billing was used in other parts of the country and that it would save the company about $150,000 a year. However, against this economy, the administrator determined that he must weigh the impact which bimonthly billing would have on the company's customers (21 PUR3d 113). He observed that many family budgets are established on a monthly basis and that the average Rhode Island consumer can more easily pay a utility bill once a month than once every two months. On this basis he disapproved the bimonthly billing provision.

Bimonthly billing, the court held, is an incident of management that, as far as the evidence in the case indicated, would not have an adverse effect on the right of ratepayers to be charged no more than just and reasonable rates. The administrator would not be permitted to interfere in this function of management in the absence of substantial evidence tending to show that bimonthly billing would be an unjust and unreasonable burden on the ratepayers. No such evidence was shown. For regulatory invasion of management to stand up under judicial review, said the court, it must rest on reasonable grounds.

Safeguard against Individual Hardship

In a case before the New York commission in 1943, an electric company

proposing bimonthly meter reading and billing offered to accept budget payments from customers to be applied on their accounts in order to obviate any hardship arising from the larger bimonthly bills (48 PUR NS 13). In approving the billing proposal, however, the commission provided that any customer should be permitted to read his own meter and be billed each month. This would not only obviate cases of hardship but would tend to offset a slight increase in revenues which would accrue from bimonthly billing. Sufficient reason otherwise appeared to justify bimonthly billing in this instance where meter reading and other related work would be reduced by 40 per cent, substantial savings would be realized, and customers would be spared the inconvenience of making monthly payments.

Several years later the company was denied permission to eliminate the customer's privilege of reading his own meter and receiving a monthly bill, even though only a small fraction (less than one-third of one per cent) of the company's customers exercised the privilege (65 PUR NS 311). Despite the extra work involved in the separate handling of post-card readings in the billing process, the commission thought the practice should be continued until more experience demonstrated that no consumer desired monthly billings.

Similarly, the Massachusetts public utilities department recently required an electric company to retain post-card meter reading for customers who preferred to have monthly billing (35 PUR3d 525). At the same time, a proposal to eliminate a two-month limitation on estimated bills was disapproved.

Another economic aspect of bimonthly meter reading and billing was urged before the New York commission in the early nineteen forties (48 PUR NS 367). Witnesses opposing a gas company's proposal to institute bimonthly reading and billing claimed that the practice would reduce employment. The commission pointed out that it had no authority to deal with labor problems as such. In any event, it appeared that bills would be relatively small for most customers, which would foreclose any undue hardship. At the same time considerable economies would be effected, estimated at $205,000 after allowing for increased uncollectible bills. The proposal was approved.

Disadvantages to Customers Outweigh Economies

The California commission refused to require a gas company to adopt bimonthly billing even though it would result in savings of between $500,000 and $600,000 annually, according to the company's estimate (20 PUR3d 267). The company urged several reasons against a change to bimonthly billing. There is more seasonal swing in gas bills than in other types of utility services, it was said, and the adoption of bimonthly billing would increase the number of high-bill complaints during the winter months. It was alleged that many people work on a monthly budget and prefer to be billed monthly. Bimonthly billing would therefore result in an increase in uncollectible bills. The commission accepted these arguments.

Extended Readings Produce Errors

"It is the commission's opinion from a study of the evidence that extended

meter-reading plans offer the least possibility of savings in urban communities because customers are not far apart and cars are not used by meter readers; that such extended readings in urban communities where there is the greatest density of commercial customers offer the maximum possibility of errors," said the Wisconsin commission (95 PUR NS 179). It was found to be unreasonable for an electric company to use bimonthly meter reading in incorporated villages. Under a statute authorizing the commission to investigate complaints and order changes in utility practices, the commission held that it had jurisdiction to order the discontinuance of the bimonthly meter reading.

The same commission ruled in an earlier case that a small telephone company must render exchange service on a monthly basis rather than on an annual contract basis. Excepted from this requirement, however, were seasonal service and certain minor service which could not be rendered conveniently on a monthly basis (72 PUR NS 107).

Review of Current Cases

Return Adjusted Downward to Reflect Accelerated Depreciation Benefits

THE Indiana commission, after finding that a return of 5.9 per cent on an electric company's fair value rate base would have been justified if the company had not elected to avail itself of an accelerated depreciation option under §§ 167 and 168 of the Internal Revenue Code of 1954, adjusted the return downward by .27 per cent. The adjusted rate of return was fixed at 5.63 per cent. The commission felt the downward adjustment was justified so as to reflect properly the fact that capital was available to the company without cost to it resulting from the deferral of federal income taxes.

Deferred Tax Reserve

The commission held that, in addition to allowing, as an expense, the normalized tax, the reserve for deferred taxes resulting from the use of the accelerated depreciation option would not be deducted from the rate base. The purpose of the congressional enactment providing for accelerated depreciation would be defeated, the commission felt, if the utilities were denied the same tax treatment allowed other concerns under the code. To deny utilities the right to earn a return on plant paid for out of funds made available by deferring payment of income taxes would be to work a discrimination not intended by Congress and would defeat its purpose, which is to provide an incentive for plant expansion and improvement.

In Nature of Gift

The commission pointed out, however, that there could be no reasonable doubt that, to the extent the code provisions permit deferral of taxes, funds are made available to a utility for proper corporate purposes including plant expansion without cost. While it may be some distortion of the English language to refer to a tax deferral as a gift from the federal government, the commission said, neverthe-

less, it is a fact that the utility is permitted to retain funds which it otherwise would not have. That was why the commission adopted the position that the reserve had to be considered in determining the cost of money and rate of return to which the company was entitled.

Facility Charge in Domestic Rate

The company, in its domestic rate schedules, had proposed to eliminate presently existing minimum charges under which some energy could be used, and to substitute a facility charge payable regardless of energy used. The facility charge was designed to allocate to the utility customers a portion of the fixed costs which were incurred by the utility regardless of the amount of power actually supplied. It was not correlated in any manner to consumption.

The commission failed to see why the general objective could not be sufficiently obtained through the customary minimum rate charge whereby the consumer had to pay a minimum bill regardless of the amount consumed. As the facility charge was proposed, the commission took the position that a rate or charge assessed against a consumer by a public utility which does not purchase anything is not consistent with applicable state statutes. It seriously doubted that a fee or charge could be required as a condition precedent to obtaining service since the utility had a legal obligation to furnish service and facilities.

Future Expectations

Protestants and interveners suggested that the company be required to wait for a substantial period to see how its earnings developed under present rates and that the company should consider the possibility of establishing special promotional rates to build up load. The commission disagreed. A utility cannot be required to submit to a day-to-day confiscation of its property, and present confiscation is not atoned for by merely holding out the hope of a better life to come. Present rates were producing an insufficient return on the fair value of property, and the commission could not legally deny the company necessary relief on the basis of considerations of such a character.

Hypothetical Capital Structure

Interveners had proposed that the commission order the company to increase its debt financing, thereby increasing its debt ratio. The increased debt, it was suggested, could provide, in part, additional funds for taxes and servicing capital additions.

The amount of debt which a company should tolerate in its capital structure, the commission answered, is a complex question which, within certain limits, must be left to managerial discretion.

By way of summary, the commission pointed out that increasing debt is bound to increase risk and that the weighing of the many imponderables in this area can and must be done by management. Different utilities have different problems, both internal and external, and arbitrary action on the part of the commission in forcing a utility under its jurisdiction into a specific financial strait jacket would create a dangerous situation which inevitably would backfire with tragic consequences not only to the utility but to those whom it served.

Therefore, it was considered improper for the commission to require the company to increase its debt ratio. In addition, the commission was prohibited by a statute from hypothecating the capital structure. Before a capital structure could be adopted for rate-making purposes, the change would actually have to take place.

Future Revenues

Interveners next argued that the commission should somehow consider increased revenues in the future which would be derived from increased customers in the future. The commission noted it had adhered rather rigidly to the use of a cut-off date for determining utility plant in service, in calculating a rate base. It had likewise used the same cut-off date for calculation of revenues and expenses, making pro forma adjustments for known factors.

It is impossible, said the commission, for an administrative body to balance accurately those revenues to be derived from customers who would be added in the future against those expenses which would be incurred in consequence of the addition of customers in the future. These expenses not only include direct expenses of adding the customer but include less easily computed expenses of back-up facilities which must be added to serve a larger number of customers. Therefore, for administrative purposes, it is absolutely essential that the situation be determined, based on the known factors as of a date certain. Adopting the interveners' suggestion would be unduly speculative and, therefore, had to be rejected. *Re Public Service Co. of Indiana, Inc. No. 28364, January 13, 1961.*

Failure of Anticipated Business Expansions Requires Rehearing on Station Agency Change

THE Pennsylvania superior court held that the commission erred in denying a railroad's application for a rehearing. The case involved a request to change the status of a station from agency freight to nonagency carload. The request had been denied, and the commission had accorded great weight to testimony of a shipper that it anticipated tripling of its shipping requirements. The railroad had based its rehearing petition upon proffered evidence that the anticipated tripling had not materialized.

Factors to be considered in eliminating an agency or in changing the status of a station, pointed out the court, are accessibility to other stations, the ratio of cost of maintaining the station to revenue received, and the necessity for and convenience to the public as a whole.

The commission's original denial of the application for a change of agency status had been justified, in view of the establishment of a manufacturing project in the area that showed promise of increasing use of the particular station by the shipper involved. Later, when the railroad, with enlightened hindsight, had requested a rehearing, the commission should have acceded to the request. *New York C. R. Co. v. Pennsylvania Pub. Utility Commission, 166 A2d 55.*

Abandonment of Rail Passenger Trains Disapproved Despite Financial Losses

THE California commission refused to permit Southern Pacific Company to discontinue the operation of two passenger trains between the San Francisco Bay area and Sacramento, the capital of the state. The operation of these trains was shown to result in an out-of-pocket loss of $156,000 a year. Only about forty-

four passengers used these two trains daily, and this was a diminishing number.

It appeared to the commission that daily round-trip service between San Francisco and Sacramento would be ended if these trains were discontinued. It was to no avail that the company called attention to other transportation facilities which seemed more than ample to meet the public requirement. The commission took the position that service by other carriers would not warrant abandonment of passenger trains unless all reasonable steps had been taken to maintain rail passenger service in a competitive condition. No such showing was made in this case.

Rail Service to Be Preserved

The commission indicated that it would insist upon the preservation of reasonably adequate railroad passenger service and its modernization and improvement until either the people of the state by constitutional prescription or the legislature by statute directs otherwise. The law, said the commission, raises a presumption that any service furnished by a railroad is required by public convenience and necessity.

No claim of confiscation was made by the railroad, nor was any evidence presented as to the company's intrastate operating results. Such evidence, it was observed, must be shown as a basis for a claim or confiscation. Only the issue of public convenience and necessity was presented by the company.

The commission pointed out that no evidence had been presented as to the number of passengers carried between San Francisco and Sacramento by other trains of the company. Such evidence was also deemed relevant in this proceeding. Passenger traffic on the two trains sought to be discontinued might be diverted to other trains. In denying the application, the commission observed that an improvement in the company's facilities and schedules between San Francisco and Sacramento would make rail service more competitive with other public transportation.

"Horse-and-buggy" Philosophy

Two dissenting commissioners thought the majority opinion "smacks of the horse-and-buggy era, when railroad passenger service was substantially the only transportation means available for travel from one urban center to another." It is not in the public interest, they declared, to require Southern Pacific to continue the operation of the two trains, involving a large financial loss, when there is more than adequate substitute transportation available. *Re Southern Pacific Co. Decision No. 61221, Application No. 42468, December 20, 1960.*

Seasonal Water Service Held Public Utility

THE Wisconsin commission held that a small water system serving a summer residential subdivision was a public utility.

Although only thirty-four customers were supplied, service was available to all who wanted it from May 1st to October 15th. Service was commenced about twenty-five years ago, and during the intervening time much of the property in the area has changed hands. An investigation of the service was instituted upon complaint by a water user against a proposed increase in the seasonal rate of $50 a customer.

The commission determined a rate base

on the basis of estimated original cost depreciated, with an allowance for working capital. Operating expenses were also estimated. A rate of return of 5.5 per cent was considered reasonable. It was found that the necessary revenues could be provided by a seasonal rate of $35 a customer, and such rate was accordingly authorized. *Crawford v. Wilkinson, 2-U-5432, December 29, 1960.*

Greyhound Denied Permission to Discontinue Unprofitable Schedule

THE North Carolina commission denied an application of the Greyhound Corporation to discontinue certain trip schedules between two points. It was shown that an average of thirty-eight persons per day used the service over the 92 miles traversed, thus establishing public convenience and necessity, in the commission's eyes. If the carrier was to rely on the service area franchise protection of its certificate, it had to continue rendering the service, particularly in view that the service sought to be discontinued had arisen from discontinuance of a previous schedule.

The power conferred upon the commission to require transportation companies to maintain substantial service to the public, it was said, will not be denied even though the service may be unremunerative when singled out and related to a particular locality, if the loss is viewed in relation to and as a part of the overall operations of profitable transportation.

It had been shown that charter service produced revenues over the route involved, but that the company had not allocated a pro rata share of such remuneration to the schedule sought to be discontinued. All schedules operated over a given route, the commission held, are entitled to their respective part of this privilege and at least a pro rata share of such remuneration. If the revenue cents per mile were adjusted to reflect revenues from the transportation of express and a pro rata share of charter service, at least some of the disparity between revenues collected and out-of-pocket operating expenses would be lessened. *Re Greyhound Corp. Docket No. B-7, Sub 58, February 8, 1961.*

Restricted Stock Option Plan for Key Employees Of Holding Company System Approved

THE Securities and Exchange Commission approved, subject to conditions, the proposed issuance of restricted common stock options to key employees of Middle South Utilities, Inc., a holding company, and its subsidiaries. It concluded that the options were being issued for the necessary corporate purpose of assisting in recruiting and retaining executive personnel.

The commission did require that the plan be amended to provide that the exercise price of the options be 100 per cent of fair market value on the date of issuance or on the date any reduction is made in the exercise price because of market decline. It also provided that not more than 25 per cent of authorized options be granted to existing officers of the holding company or its subsidiaries, and that no one person might obtain options for shares having exercise price in excess

of 150 per cent of his regular annual cash compensation. The stock option was held to be a security within the meaning of § 2 of the Holding Company Act despite the fact that it was nontransferable.

Necessity of Plan

In support of its argument that the plan was for necessary and urgent corporate purposes, the holding company presented testimony of persons experienced in executive placement. It was the unanimous view of these witnesses that the granting of stock options was necessary in order to enable the corporation to compete in the market for topflight management personnel. The commission said that it was satisfied that, under existing conditions, stock options do in fact in many instances constitute a material factor affecting executive personnel recruitment and retention. It observed that whether they will be effective in the instant case or whether, by their very nature, they can ever be of substantial value in the case of any established and relatively stable industry such as a public utility are questions that involve management's judgment rather than the commission's.

The commission did not attach much weight to the argument that the holding company's officers owe a duty of diligence to the company without the encouragement of the proposed plan. On the other hand, it attached little weight to the company's argument that the plan would serve to make its officers work harder. It said that if the company's existing arrangements for compensation are inadequate to hold or attract key personnel and if the use of such stock options is necessary or desirable from this point of view, the company should be able to issue them accordingly. The commission concluded that the stock options were for necessary and urgent corporate purposes on the ground that adequate and fitting executive compensation is a requisite for the financial and operational health of the utility.

Effect on Investors

The commission also considered whether the proposal would in any way be inconsistent with the fundamental purpose of the Holding Company Act, which was to eradicate certain admittedly financially and socially undesirable phenomena from the public utility field.

The act sets up broad standards of public interest and the interests of investors and consumers. The commission believed that it is these standards that it should refer to in a case such as this where the problems involved appear not to have been foreseen by the draftsmen of the statute. It said that it was more important that it permit an essential industry to operate effectively than that it "split dialectic hairs over the meaning of words."

The commission noted that the issuance of restricted stock options by the holding company, which is to be effected only after stockholder approval, is clearly within the company's corporate powers, and that they certainly are not illegal per se. In addition to the recognition of, and favorable treatment accorded to, restricted stock options in the Internal Revenue Code, they have been upheld judicially. Their philosophy has been supported by an important congressional group, and the Interstate Commerce Commission has found their issuance to be compatible with the public interest and reasonably necessary and appropriate under the Interstate Commerce Act.

Furthermore, the issuance of such options has been approved by regulatory bodies in several states for use by operating public utility companies in those jurisdictions. Accordingly, the commis-

sion could not find that the public interest required it to proscribe the use of restricted stock options. Nor could it find any basis for concluding that they would be contrary to the interests of investors or consumers.

Compensation Factor

Granted that it is necessary for utilities to pay their executives adequate salaries, what is adequate must, according to the commission, be determined from the standpoint of the recipient, as well as that of the utility. Consequently, it said, even were it more economical for the utility to increase cash compensation than to issue stock options, the cash increase would not serve the utility's purpose if the recipient did not evaluate such an increase by the same standards and still preferred the option. Moreover, the commission was not satisfied that the stock option was a less economical method of compensation.

It was argued that in most cases, because of the deductibility of direct salary payments, it would cost the company more to confer a given amount of after-tax income to the employee through options than through cash. The commission disagreed saying that such an argument presupposed that the stock acquired by exercise of the options would be sold and capital gain realized by the executive. It pointed out that if he chose not to sell the stock but to retain it until death, no capital gains tax would ever be levied on the accrued unrealized gain. It was deemed reasonable to assume that in a significant number of cases the executive would hold the stock indefinitely as an investment. In short, the argument against the option was undermined by the fact that the executive might be able to exercise his option and yet never actually sell his stock.

Effect on Consumers

The commission believed that the plan was not contrary to the interest of consumers, either. It said that regulation in a capitalistic economy ought to take into account the desirability from the consumer's standpoint of efficient and competent management. It was conceded that the exercise of stock options would affect the equity account of the utility and, to a very minute degree, the justifiable rates to consumers.

However, since the plan was deemed necessary, or even desirable, in order to obtain competent management personnel, it seemed clear to the commission that the consumer was receiving adequate compensation for the expense to which he was being put. A substantial difference in degree of management efficiency would affect consumer rates far more than would a small adverse balance sheet entry.

The commission also concluded that it was proper under the Holding Company Act for Middle South to issue options for its own stock to executives of its operating subsidiaries. It pointed out that the corporate purposes of the subsidiaries are corporate purposes of the holding company. *Re Middle South Utilities, Inc. File No. 70-3777, Release No. 14367, February 7, 1961.*

Retroactive Rate Fixing Reversible Error

THE Indiana appellate court reversed a commission order rescinding a previous telephone rate order and reinstating pre-existing rates. The case was remanded to the commission with instructions to hold a hearing with notice to all parties

and an opportunity to be heard so that a determination could be made as to whether the legal rates in effect were unreasonable.

The court could find no statutory authority giving the commission the power to cancel or to fix rates retroactively. The statute provided the commission with the power to fix rates for the future if it found the rates in effect to be unreasonable or unjust.

The Indiana commission, however, could not fix rates for the past, as it had attempted to do.

No utility could attract capital for expansion or replacement of its property and facilities, pointed out the court, if the commission could at one time fix rates for that utility and then at some later time rescind those rates retroactively, fix lower rates retroactively, and require the difference to be refunded to the ratepayers. The law of Indiana was not designed to create chaotic conditions in the market where utilities, as well as other businesses, go to obtain capital for their legitimate business purposes.

Notwithstanding the order rescinding the previous order, the rates under the previous order remained the legal rates in effect because the rescinding order had made no special findings that such rates were unjust, unreasonable, and excessive.

Absence of Separation Study

The commission had claimed that the absence of a separation study went to the essence of the case, and constituted a bar towards increased rates. Refusal to withdraw its admonition to the company to present a separation study, or, in the alternative, grant a continuance of the rehearing in order to give appellant time to make it was held error. The court was of the opinion that the offer by the company to make such a study, provided an extension of time and permission to expend funds for that purpose were granted, should have been approved. The failure of the commission to so approve denied the company a full, fair, and adequate hearing. *Indiana Teleph. Corp. v. Indiana Pub. Service Commission et al. 171 NE2d 111.*

Extended-area Service Despite Intervening Exchanges

In a precedent setting decision, the Ohio commission approved the use of extended calling privileges for a community at a distance far removed from the metropolitan area and with two other telephone exchanges intervening between the outlying area and the metropolitan center. This marked the first time the commission had departed from its practice of approving extended-area service only where exchanges were contiguous. The case involved residents of the Chesterland exchange area, The Ohio Bell Telephone Company, and the Cleveland extended service metropolitan area.

The commission reiterated factors which would justify the institution of extended-area service. It is not a substitute for message toll service, said the commission, but rather a service designed to meet the day-to-day calling requirements of subscribers which cannot properly be met with local calling confined to a single exchange area.

One of the basic factors is community of interest. The volume of message toll telephone traffic between the exchanges involved—*i.e.*, the calling rate—is a component of such factor, as is the distribution of the calling to determine whether the traffic is originated by the subscribers generally or by only a relatively few sub-

scribers. Also important, is the location of various services, products, and activities, such as population movement, school activities, police and fire service, other government services, medical, dental, and veterinarian service, churches, agricultural organizations, shopping and service centers, and employment centers.

Cost Factor

Another pertinent factor is the investment and cost consideration. It would not be in the public interest for a telephone company to enter into exceptionally high costs in situations where the extended-area service requirement is slight. Therefore, each of the factors must be evaluated in relation to all others. Timing is an important cost consideration and substantial weight must be given to plans for instituting the service in the most economical manner and at the most economical time.

Rate Factor

Another factor is willingness of a substantial majority of the subscribers to pay appropriate rates. This is a basic and necessary condition to the institution of extended-area service. The demands of a few subscribers should not force the institution of a more costly telephone service contrary to the wishes of a majority of the subscribers.

To determine whether the substantial majority of the subscribers of the exchange in question were willing to pay an additional monthly charge of one dollar, the commission directed a survey to be taken by the company. *Residents of the Chesterland Area v. Ohio Bell Teleph. Co. No. 28,623, February 9, 1961.*

Electric Company Certificated to Serve Mine Despite Co-op's Protest

THE New Mexico commission granted a certificate to an electric company authorizing it to construct a 115-kilovolt transmission line to furnish service to a mining company and other prospective consumers in an area which an electric cooperative claimed it alone was privileged to serve. The co-op had sought to intervene in the certificate proceeding, but since, under applicable statutes, it was not recognized as a public utility, the commission did not permit it to become a party to the proceeding but allowed it to participate as a protestant.

The commission found that the applicant had contracted with the mining company to supply its power requirements. It had ample generating capacity available from which to supply existing customers and to supply the prospective loads. It had sufficient funds available to promptly construct the necessary facilities.

It had adequately trained personnel to operate and maintain such facilities.

There had been no showing that the company, its consumers, its stockholders, or the holders of its bonds would be adversely affected in any way by the issuance of the certificate. The company was ready, willing, and able, both financially and otherwise, to provide the needed service. It was in the public interest that the certificate be issued. *Re Public Service Co. of New Mexico, Case No. 576, February 21, 1961.*

Cost-of-money Evidence Not Necessary to Determine Fair Return

THE Indiana commission, in granting a water company increased rates which would produce a return of 5.8 per cent on a fair value rate base, stated that a strict cost-of-money formula is not the sole measure of a fair rate of return. Although full disclosure of the actual cost of money should have been made, the commission said, it has always drawn from its experience in regulating utility rates in determining an appropriate rate of return, even in the complete absence of cost-of-money evidence.

Many small utilities that come before the commission, it was pointed out, are unable to afford the services of cost-of-money experts. Therefore, it is neither unusual nor unlawful to determine a rate of return even though such evidence in the record is not completely satisfactory.

Fair Value Rate Base

Contributions in aid of construction, the commission held, should be deducted from the fair value rate base. With regard to cash working capital, the company's claimed allowance was adjusted downward to reflect deferred federal income taxes available for that purpose.

Part of the additions to plant consisted of an iron removal system. The installation had not resulted in securing water to the consumers of the high quality to which they were entitled, the commission thought. While it could not be said that the iron removal equipment was not used and useful, the commission indicated it would consider failure of the system to accomplish the desired and expected results when arriving at the fair value of the company's property.

Public Fire Protection Rates

The company proposed an increase of $24 a year for fire hydrant service. Such rate was less than would have been determined upon an allocation of the portion of plant and expenses attributable to the rendering of such service. Fire hydrant rates, the commission said, are largely affected by public policy and, since public fire protection is not for the exclusive benefit of the municipality paying the charges, it is proper that such charges be shared by the taxpayer and ratepayer groups, both of which benefit therefrom. *Re Indiana Gas & Water Co., Inc. No. 28284, January 13, 1961.*

Service by Electric Company Preferred over Membership Corporation in Disputed Territory

THE North Carolina commission refused to interfere with the provision of electric service by Duke Power Company to new water system installations being constructed by the town of Marshville in an area which Pee Dee Electric Membership Corporation claimed a right to serve. A petition by Pee Dee seeking a cease-and-desist order was denied. While the membership corporation was a proper party before the commission, it was not otherwise subject to the commission's jurisdiction.

The town's facilities are being constructed just outside the incorporated limits at a point where Pee Dee's lines from the south meet Duke's lines from the north. Although Pee Dee had reached the area first with single-phase residential service, the three-phase lines of each, nec-

essary to the water system service, were about equidistant from the point to be served. After considering service offers from each company, the town entered into a contract with Duke. Duke thereupon constructed the necessary three-phase lines and proceeded to furnish construction service to the town's contractor.

Service Continuity and Regulation

In electing to take service from Duke, the town took into consideration the fact that Duke maintained a substation in Marshville and a branch office with ten resident employees, including a full line crew on 24-hour call. Service would be furnished through a substation in Marshville, which also serves the town. This substation is fed directly from a substation about 10 miles away, which in turn is fed by three 100-kilovolt lines from major generating stations. On the other hand, Pee Dee's closest employees are approximately 18 miles away. Its source of power for the town's installations is a substation in a neghboring town, which is fed from one of Pee Dee's lines out of Carolina Power & Light Company's substation in Wadesboro. The latter substation is fed by a single 110-kilovolt line of Carolina Power. Besides these considerations, a substantial factor in the town's decision was the fact that Duke's rates were substantially lower than Pee Dee's. Duke's rates and service are regulated by the commission whereas Pee Dee's are not.

The commission held that Duke's action in constructing its three-phase service to the town's installations did not constitute a duplication or paralleling of existing facilities of Pee Dee since the only existing facilities of Pee Dee which were significantly closer to the installations than those of Duke were single-phase facilities, incapable of furnishing the required service. Nor did Duke's action constitute unfair or injurious competition. On all the evidence, the commission found that the public interest would be better served if the town were supplied by Duke rather than by Pee Dee, in view of Duke's probably greater continuity of service, arising from its power sources and readily available service personnel, and in view of the commission's regulation of Duke's service.

Freedom to Compete

The present policy of North Carolina permits an electric public utility to compete freely with a co-operative in providing service to applicants who are not being served by either party. Furthermore, regulated utilities are under a clear duty in North Carolina to supply every reasonable demand for service. Where, as here, an applicant not presently receiving service is within economic reach of the lines of a public utility and those of a co-operative, the applicant is entitled to elect the service of the utility.

Contract Inapplicable

Finally, the commission held that a contract between Duke and Pee Dee limiting competition did not bar Duke's service to the town since the acts here complained of occurred prior to the execution and delivery of the contract. And even if the contract related back, the commission would have the duty to declare the applicable portion of it void in so far as it impaired the utility's obligation to serve all applicants within economic reach of its lines. *Pee Dee Electric Membership Corp. v. Duke Power Co. Docket No. E-7, Sub 45, January 31, 1961.*

Commission Certificates Second Utility in Area

THE Indiana commission granted a certificate to a telephone company to serve as a second utility in an area being served by a certificated telephone co-operative. The commission realized that such practice should not be common and widespread, but noted that there were exceptional circumstances which appeared to justify the authorization of competition.

It was true that the co-op had invested substantial money in plant and equipment to serve the area. It was also true that the co-op was making an earnest effort to improve service deficiencies. However, the quality of service offered by the co-op was still poor, there was a community of interest between residents of the disputed area and the adjacent exchange area of the newly certificated utility, and the bulk of the subscribers in the disputed area desired service from the utility. *Residents of Taylor Township et al. v. Clay County Rural Teleph. Co-op., Inc. et al. Nos. 28565, 28566, January 13, 1961.*

Court Upholds Certificate Holder's Right to Serve, Reverses Certificate Grant to Another Utility

THE Mississippi supreme court reversed and remanded a commission order certificating the Mississippi Power & Light Company to serve a manufacturer located in the center of an area served by Capital Electric. The latter held a grandfather certificate to serve the area in question.

The commission had also approved the contract for service between the manufacturer and Mississippi.

A franchise in the nature of a grandfather certificate, pointed out the court, is a valuable right which can be protected in the courts. An existing utility within a certificated area has the right and duty to provide service, and must be given that opportunity. The commission can award another franchise to another utility only if the service is inadequate and the existing utility has been given an opportunity to furnish such additional service as may be required and has failed to do so. The theory behind the rule is that facilities of one utility should not be duplicated in the same area.

The appellee next contended that a statute empowered the commission to promulgate rules and regulations to allow utilities to contract with a manufacturer who is not a utility without reference to the rates or other conditions which may be established or fixed. The court countered that the statute cited was applicable to rate schedules only. It did not authorize the commission, in approving a utility's contract with a manufacturer, to disregard the requirements of a grandfather certificate right.

The probable reason for the provision of the statute was to hold out inducements for industrial development. It was unthinkable, in the court's eyes, that the legislature threw in the expression "or other conditions" with the intention of giving to the commission the power to take away from a utility, which had been serving an area for many years, its right to do so, or to set up a competitor.

To allow the invasion of Capital Electric's area on account of the desire of the manufacturer, regardless of the reasons, to be served by Mississippi, pointed out the court, would lay down a principle which would result in endless duplication and make a shamble of the utility act.

Such a policy would not be countenanced by the court. *Capital Electric Power Asso. v. Mississippi Power & Light Co. 125 So 2d 739.*

Refusal of Gas Service for Manufacturer's Gas Burners Considered under Antitrust Law

THE U. S. Supreme Court ruled that a manufacturer of gas burners stated a claim upon which relief could be granted, where it was alleged that American Gas Association, Inc., conspired with its utility members to restrain interstate commerce in the manufacture, sale, and use of the plaintiff's gas burners, in violation of the Sherman antitrust law, by refusing to provide gas for them because they were not approved by the defendant corporation. District court action dismissing the complaint was overturned, and the cause was remanded for trial.

The appeals court, in affirming the dismissal, had stated that the allegations did not establish any per se violation of the act and that, in the absence of a per se violation, the Sherman Act protects the injured competitor and affords him relief, but only under circumstances where there is such general injury to the competitive process that the public at large suffers economic harm. The appeals court could find no such public injury within the complaint.

Within Forbidden Restraints

The Supreme Court declared that the complaint clearly showed one type of trade restraint and public harm which the Sherman Act forbids. It is obvious, said the court, that the manufacturer cannot sell its gas burners, whatever may be their virtues, if, because of the alleged conspiracy, the purchasers cannot buy gas for them. A conspiratorial refusal to provide gas for the burners, therefore, falls within one of the classes of restraints which from their nature are unduly restrictive and hence forbidden by the statute and by the common law. Congress has determined its own criteria of public harm as to these classes of restraint, and it is not for the courts to decide whether in an individual case injury has actually occurred.

The court said the alleged conspiracy interferes with the natural flow of interstate commerce and clearly has by its nature a monopolistic tendency. As such it is not to be tolerated merely because the victim is just one manufacturer whose destruction would make little difference to the economy. Congress made illegal "every contract, combination . . . or conspiracy in restraint of trade or commerce among the several states." To state a claim upon which relief can be granted under this provision, the law merely requires allegations adequate to show a violation and, in a private treble damage action, that the plaintiff was damaged thereby. *Radiant Burners, Inc. v. Peoples Gas Light & Coke Co. et al. 5 L ed 2d 358, 81 S Ct 365.*

Other Recent Rulings

Intercorporate Relations Affecting Return. The California commission found that a rate of return of 6 per cent on an average depreciated rate base was reasonable for a water company in view of the intimate relationship between the appli-

cant and its parent and other companies associated with the parent. *Re Dominguez Water Corp. Decision No. 61396, Application No. 42262, January 24, 1961.*

Compound Interest Method of Depreciation. The Pennsylvania commission held that the 4 per cent compound interest method of accruing depreciation for water companies was acceptable for ratemaking purposes, commenting that where such method is used estimated service lives derived by giving effect to mortality dispersion may not be appropriate. *Pennsylvania Pub. Utility Commission et al. v. Pottsville Water Co. C. 17422 et al.*

Supplier Rates Offset. The California commission granted the Southwest Gas Corporation an interim rate increase to offset increased rates charged by its supplier, Pacific Gas and Electric Company. *Re Southwest Gas Corp. Decision No. 61253, Application No. 42755, December 28, 1960.*

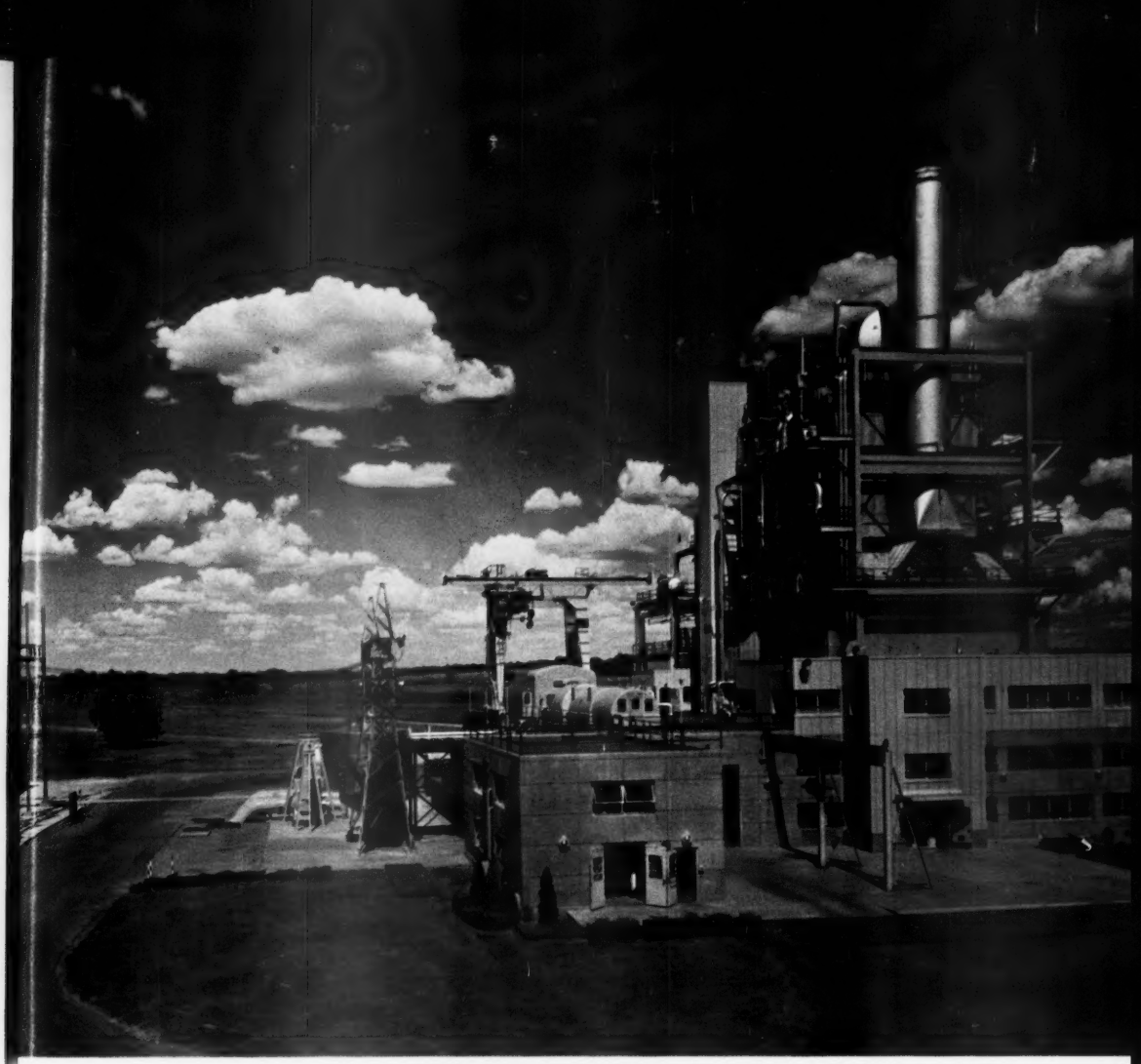
New Carrier Entering Field. The North Dakota commission denied permission to sell a special motor carrier freight certificate where the result would have been a new carrier entering the field, detrimentally affecting existing carriers. *Re Fox, Case No. S-1532, January 9, 1961.*

Stay of Rate Order Denied. A federal appeals court refused to stay Federal Power Commission rate orders where the petitioners failed to make a strong showing that the court would finally invalidate the commission's determination that 7 per cent was higher than a fair rate of return for a natural gas pipeline company, and where no sufficient showing was made that any party would suffer irreparable loss because the pipeline's method of allocating costs among different zones may ultimately be successfully challenged. *Tennessee Gas Transmission Co. et al. v. Federal Power Commission, 283 F2d 729.*

Track Extension. The U. S. district court enjoined a railroad from constructing trackage into a new industrial area until it had obtained a certificate from the Interstate Commerce Commission upon a showing that the proposed construction was actually an extension of the railroad's line and not a spur or industrial track. *Chicago, R. I. & P. R. Co. v. Chicago & N. W. R. Co. 188 F Supp 549.*

Agency Station Discontinuance. The Louisiana supreme court pointed out that the rule in regard to discontinuance of a railroad agency station is a determination of the public convenience and necessity in relation to such service and the expense of the operation as compared with the revenue therefrom. *Louisiana & A. R. Co. v. Louisiana Pub. Service Commission, 124 So2d 899.*

Adequacy of Existing Service. The Louisiana supreme court reversed and remanded to the trial court a commission order denying a railroad's application for a motor carrier certificate where the reviewing court was unable to determine, upon the record, whether existing service relied upon by the commission in denying the application had actually been suspended and, if so, the effect of such suspension on the adequacy of existing service. *Illinois C. R. Co. v. Louisiana Pub. Service Commission et al. 125 So2d 387.*



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Industrial Progress

rthern Indiana Public Service To Spend $87 Million

RTHERN Indiana Public Serv- Company will invest $87 million 1961 and 1962 in the expansion modernization of facilities, Dean Mitchell, NIPSCO president, told reholders in the utility's 1960 an- l report.

Ir. Mitchell said the multi-million ar construction program is de- ed to keep ahead of the rapid wth and development taking place northern Indiana. "It is tangible dence," he said, "of the confidence have in the dynamic future of the itory we serve."

According to the report, construc- of the Bailly generating station the shores of Lake Michigan be- en Gary and Michigan City is the est project in this two-year pro- m. Work has been progressing on edule and plans call for the first to go "on the line" in Decem- 1962, with a net capacity of 183,- kilowatts.

Another major project is the expan- of the utility's northwest gas smission and distribution system rovide natural gas service to addi- al communities and rural areas in thern Indiana.

Also included in the program is the struction of a 138,000 volt sub- ion at Warsaw and 24 miles of l tower transmission line between rsaw and Plymouth.

Other plans for 1961 include the struction of four miles of 16-inch smission line to increase the sup- of gas to Crown Point; an 8- line to connect the recently ac- ed North Manchester gas prop- to NIPSCO's system at Wabash; the establishing of four connec- points with the transmission line the Trunkline Gas Company to in the best distribution of a new ply of natural gas NIPSCO ex- ts to receive this summer.

The report said the supply of natural gas for the utility's northwest distribution system was increased 65-½ million cubic feet per day in 1960, and an additional 75 million cubic feet per day is assured for the 1961-62 heating season.

Central Illinois Public Service Plans $13 Million Expenditure

CENTRAL Illinois Public Service Company, Springfield, Illinois, announced recently that its expenditures during 1961 for new construction and replacement facilities will amount to approximately $13,000,000 as the utility continues to build ahead to meet the growing requirements of its customers.

The total will bring expenditures of the company on construction and expansion programs to about $238,-000,000 since World War II. It includes completion of some projects started in 1960 and engineering studies for 1962 projects. CIPS now serves 520 communities in central and southern Illinois with electricity and 23 with gas.

Plans for 1961 include building or increasing the capacity of transmission and distribution lines, substations and related facilities throughout the utility's service area. Also in the program is the relocation of facilities made necessary by new state and federal highways and improvements to existing highways.

The company's system-wide microwave communications network, already said to be the largest of any electric utility in the United States, is slated for further extension this year. The system has proved valuable in effecting greater efficiency of day-to day operations, as well as in the rapid restoration of service following storms or other emergencies.

Expansion of CIPS' natural gas service facilities will continue this year. The program includes installation of new transmission and distribution mains, and replacement of many existing mains to provide increased capacity.

CIPS is exploring the possibility of underground storage of natural gas. The fuel would be stored during the summer months so that more gas would be available to customers during the heating season, thereby permitting the utility to serve many more customers than at present.

$445 Million Expenditure Planned by Philadelphia Electric in Next Five Years

PHILADELPHIA Electric Company spent over $75,000,000 on plant expansion in 1960. Additions for electric generating, transmission, and distribution facilities totaled $63,-309,000. Of this amount, $19,100,000 related to the completion of the new Eddystone station. This station, completed in 1960, houses two 325,000 kilowatt turbine generators capable of producing enough power to supply the residential electric needs of a city of five million people.

Expenditures during the next five years are expected to amount to $445 million.

$300 Million Expansion Planned By New York Telephone

A record $300 million expansion and improvement program will be carried out this year by the New York Telephone Company, President Clifton W. Phalen revealed recently in the company's annual report.

Mr. Phalen said that during 1960 the company spent $293 million to improve and expand the communications network serving New York state and bring better and more useful services to customers.

(*Continued on page* 18)

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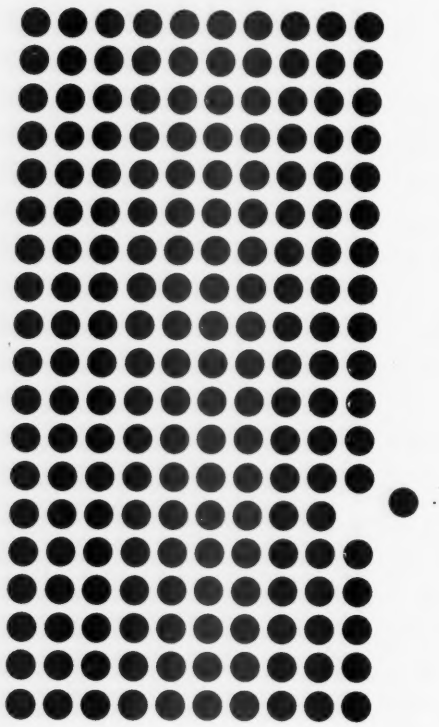

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Federal Pacific Appointment

BRADFORD J. STIMPSON has been promoted the position of marketing manager—power cir breakers and power switching equipment for Fed Pacific Electric Co., it was announced by R. L. B vice president of marketing.

Mr. Stimpson started with Federal Pacific in as an inside salesman, then became a utility sales in the company's Seattle, Washington office. In he became Los Angeles assistant district sales m ager and in 1958 became utility sales manager. S sequent to his appointment to marketing manager was assistant marketing manager—circuit breakers power switching equipment.

Mr. Stimpson's offices will be in Federal Paci new Santa Clara, California manufacturing and search facilities.

Columbus and Southern Ohio Electric Announces $22,400,000 Program

COLUMBUS and Southern Ohio Electric Comp (Columbus, Ohio) reports that construction expe tures for 1961 are scheduled to rise to $22,400,000 nearly double the $12,421,000 plant outlays of 196

Construction expenditures are expected to stay at $21,100,000 in 1962 and to slack off to al $13,800,000 in 1963.

Rochester Telephone Reports Gains in 196

ROCHESTER Telephone Company (Roches N. Y.) reports that construction expenditures reac an all-time high of $15,217,601 in 1960 as compa to $12,804,549 in 1959. Construction costs over past ten years exceed $92,250,000, a major portion which went into the company's program of conver of manual telephones to dial.

The net gain in the number of telephones adde the system in 1960 was the highest in history—1 making a total of 304,251 telephones in service. average of 1,085,420 local calls were placed daily ing 1960—a 7.3 per cent increase over 1959.

$11,500,000 Program Planned by California Electric Power

CALIFORNIA Electric Power Company (San nardino, Calif.) spent $17,339,802 in 1960 on prop additions and improvements to serve expanding

ity needs of present and new customers. Included in this outlay is the 000 kilowatt initial unit at the new ol Water steam plant set for completion in mid-1961.

Con truction for 1961 has been dget ed at $11,500,000.

Long Island Lighting Reports Gains

NG Island Lighting Company sed its Golden Anniversary Year 60 with a continuing record of wth and accomplishment, the company told its share owners in the Annal Report issued recently.

LII CO, during 1960, added 22,653 tric and 11,426 gas customers and the year-end was serving a total of 7,684 electric and 332,143 gas customers. The maximum one-hour electrical demand reached a new peak of 34,100 kilowatts on December h—the first time the 1,000,000 kw rk had been exceeded by LILCO. der the continuing stimulus of exding sales of gas for space heat- the maximum day sendout of set a record of 136,154,000 cubic t on December 13, 1960 and then a new record of 150,700,000 cubic feet in February of this year (1961). This latter record represents a 41 per cent increase over maximum day sendout for the 1959-60 winter which occurred in March of 1960.

The 70,637 gas space heating customers on the company's lines at the 1960 year-end are double the number three years earlier. Better than 84% of the new homes now being built on Long Island, where gas is available, install gas heat.

Addition of a fourth generating unit, of 185,000 kilowatts, at the Port Jefferson power station in November brought system generating capability to 1,256,500 kw. Constructioin expenditures for the year totaled $44,-893,000 and for 1961 capital outlays have been budgeted at $38 million. The next substantial addition to generating capability will be another 185,000 kilowatt unit scheduled for 1963 operation at the Edward F. Barrett power station.

$57 Million Outlay Planned by Pepco

POTOMAC Electric Power Company, Washington, D. C., plans to spend $57 million in new construction this year, the highest in four years and a jump of 60 per cent over the $35.3 million outlay in 1960.

Biggest single project currently is the installation of a third 185,000 kilowatt generating unit at the Dickerson (Md.) power plant, according to President R. Roy Dunn.

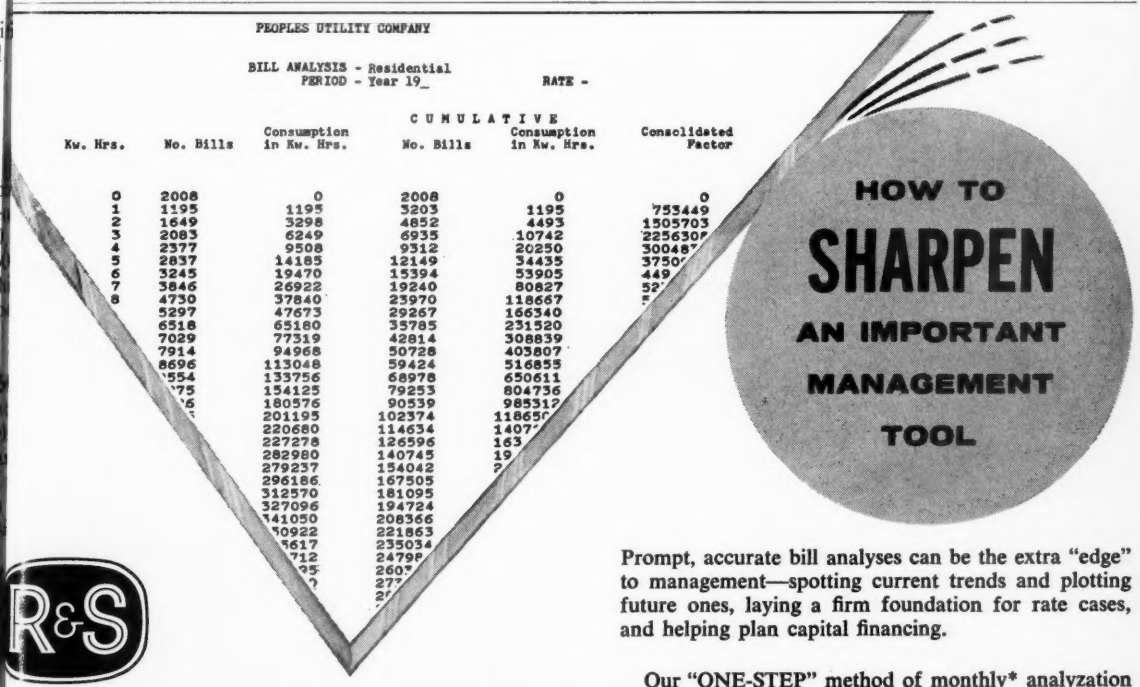
Upon completion of this third unit, expected in the spring of 1962, the net generating capability of the Pepco system will be 1,601,000 kilowatts.

Meanwhile, Mr. Dunn reported, satisfactory progress is being made in the designing of a fifth generating station, to be erected in southern Maryland. It is anticipated that this station will have an initial capacity of 300,000 kilowatts and it is scheduled to go into service in early 1964.

Arthur Flynn Joins Ebasco Services

ARTHUR W. FLYNN has joined Ebasco Services Incorporated as a nuclear engineer, it was announced recently by W. H. Colquhoun, Vice President in Charge of Engineering for the engineering, construction and management consulting firm.

(*Continued on page* 20)



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**** illustrated is a typical monthly report***

Mr. Flynn, with more than twenty years experience as an engineer, joins Ebasco from Nuclear Development Corporation of America where he served as Manager of Development and Project Engineering.

In his new post Mr. Flynn will be engaged in the application of nuclear science and engineering in connection with nuclear power plants, test reactors, nuclear research laboratories and other facilities.

McCabe-Powers Body Adds New Cable Reel Trailer to Line

A NEW, economy-priced Series RM Reel-Master Hydraulic Cable Reel Trailer which can be operated by one man, was recently added to the complete line of Powers-American utility bodies, diggers and derricks manufactured by McCabe-Powers Body Company.

According to Brooke Daly, company vice-president, "Budget-minded utility operators will find this new, low-priced Reel Master Trailer especially to their liking. It costs much less, yet does as much and even more than expensive cable reel trailers."

It was reported that one man can easily load and attach the Reel-Master to the towing vehicle without the help of a crane or winch.

Descriptive literature and price information can be obtained from McCabe-Powers Body Company, 5900 North Broadway, St. Louis 15, Missouri.

G-E Appointment

EUGENE M. HUNTER is the new manager of General Electric's power transmission engineering operation, a part of Electric Utility Systems Engineering, it was announced recently by Willard J. McLachlan, manager of electric utility systems engineering.

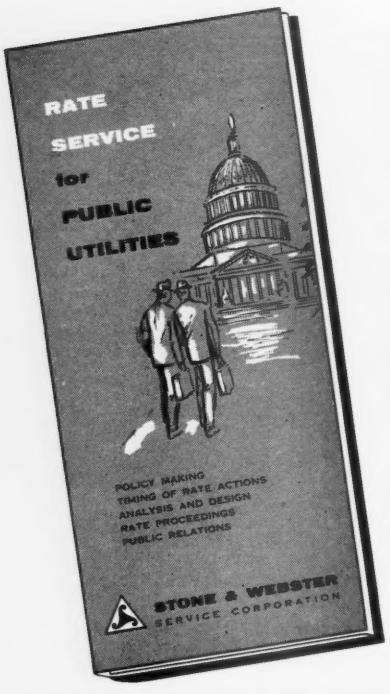
He succeeds Charles A. Wood[illegible] who was named recently as syst[illegible] engineer for Southern and Atla[illegible] areas. Mr. Hunter was previo[illegible] manager of general engineering[illegible] post he held since 1958.

Mr. Hunter will continue to be[illegible] sponsible for national and inter[illegible] tional standardization of high vol[illegible] systems and, in addition, systems [illegible] gineering covering the entire po[illegible] transmission field.

Faulkner Named Manager of Utility Sales by Hagan

L. M. FAULKNER has been nam[illegible] manager of utility sales for the C[illegible] trols Division of Hagan Chemi[illegible] & Controls, Inc., Pittsburgh, Pa.

Mr. Faulkner will co-ordinate s[illegible] of instruments and control system[illegible] both investor owned and publi[illegible] owned utilities.



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he catalog illustrates and describes complete line of O'Brien power ers, bucket machines, cable ma-es, power rod drives, and acces-es.

op es are available by writing to rien Manufacturing Company, 2 Northwest Highway, Chicago ill.

itish Columbia Electric Plans $53,000,000 Program

ITISH Columbia Electric Com-y plans capital expenditures in totalling $53 million.

iggest single expenditure will be 3 million on the Burrard thermal erating station, under construc-on the north shore of Burrard t near Port Moody.

Main structure of the Burrard nt, completed in 1960, was built to se four generating units which meet expected growth in power irements till the late 1960's. The nt can be extended to house two itional generators if more attrac-sources of power are not avail-by then, Mr. Harry L. Purdy, sident, explained.

Over 240 miles of new electrical nsmission and distribution cir-s will be erected. Biggest expen-re in this category will be $2.3 lion to complete the $9½ million nsmission line connection between Bridge river power project and ekye substation.

Work will be completed during the r on the construction or expansion 3 substations.

n the Greater Vancouver area, 65 es of distribution circuit will be uilt to make three times as much wer available to the areas they ve.

Over $5.8 million will be spent to end the company's gas system to dle growth during 1961.

Another $2 million will be spent expand the company's freight, ur-transit and interurban bus trans-tation facilities.

Extension of joint facilities for tric, gas and transportation serv-s and other miscellaneous capital enditures will cost a further $6 lion.

Southern Counties Observes Golden Anniversary

SOUTHERN Counties Gas Co. began its Golden Anniversary year of 1961 with a total of 762,486 customers served, marking the past year as one of the best in its 50-year history from the standpoint of continued growth, according to an anouncement made by Guy W. Wadsworth, Jr., the firm's president.

The final months of 1960 saw the total number of Southern Counties' customers pass the three-quarter-million mark in figures garnered throughout its service area, which extends from Paso Robles on the north through San Clemente on the south, skirting only the major portion of metropolitan Los Angeles and other contiguous areas served by Southern Counties' affiliate of the Pacific Lighting. Corp. system, Southern California Gas Co.

During 1960, a net figure of 46,011 active meters was added to the company's system. This was slightly higher than 1959's figure of 45,883 new meters. Record year for new meters for Southern Counties was 1955, when 50,639 were added.

The firm's 50-year celebration marks the anniversary of the utility's founding in February, 1911, when it served approximately 3,000 customers in Orange County and the Arcadia-Monrovia area.

Southern Counties expects to add another 45,000 new customers to its lines in 1961, Mr. Wadsworth said.

Indiana Gas & Water Plans $4,181,000 Program in 1961

INDIANA Gas & Water Company, Indianapolis, reports that construction expenditures during 1960 for new facilities and the improvement of existing facilities amounted to $3,885,902 making a total plant investment of $47,692,818 at the end of the year.

President J. W. Heiney announced plans to accelerate the expansion program even more this year with construction expenditures of approximately $4,181,000.

One of the highlights of 1960 was the introduction of natural gas service to Greenwood, Whiteland and New Whiteland, located in the metropolitan area of Indianapolis. The company is now studying the feasibility of extending natural gas service to several other communities not presently served with gas.

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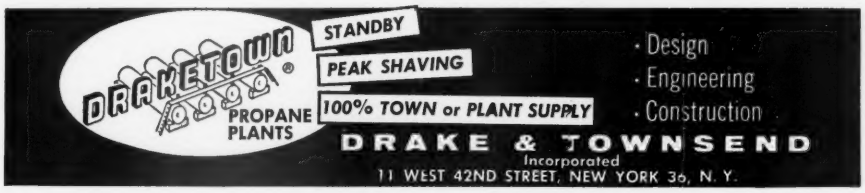

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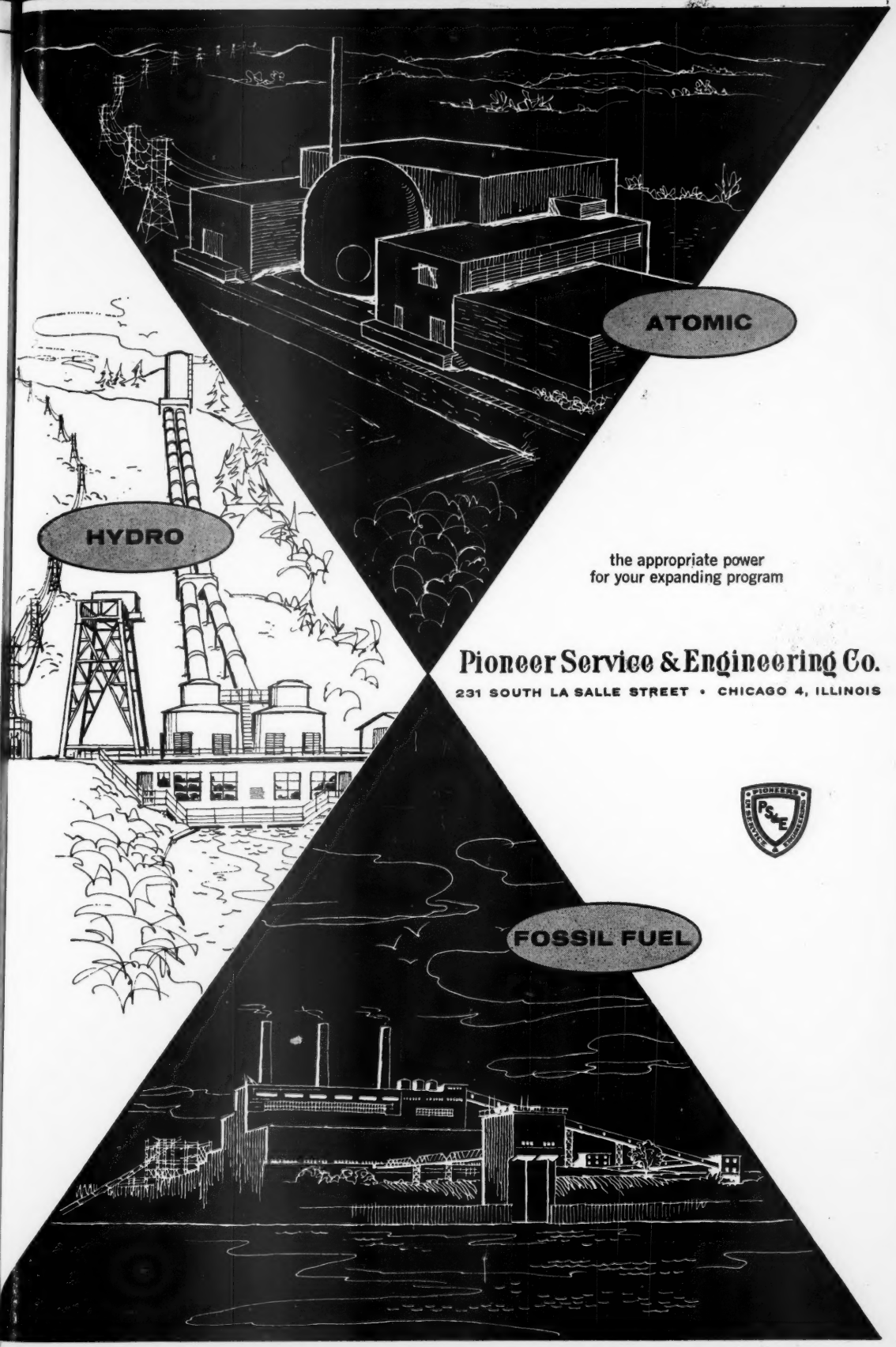

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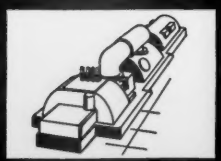

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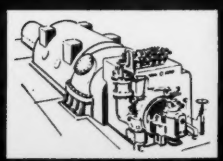

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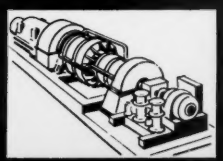

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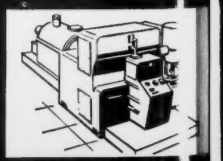

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